ORDER No.AD9902012C8

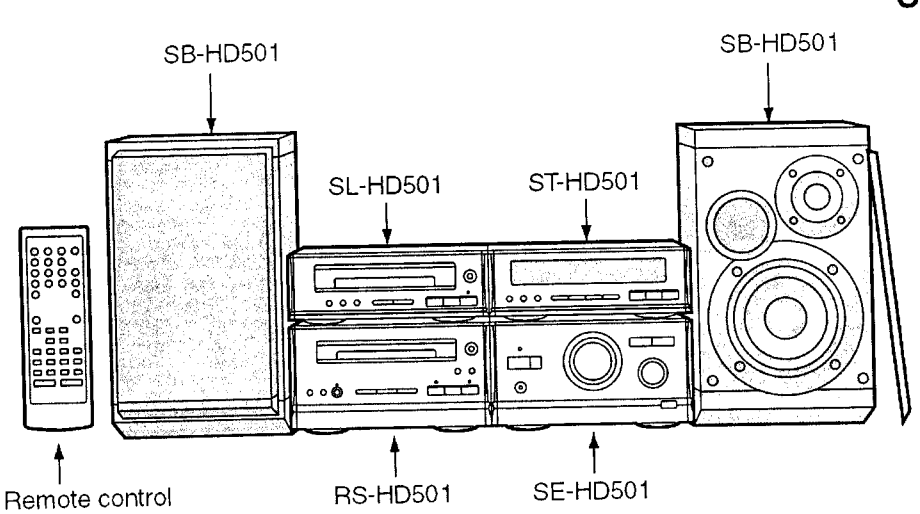
Service Manual

Cassette Deck

*

DOLBY SYSTEM

RS-HD301
RS-HD501
Colour
(N).....Gold Type
Area
E.....Europe,Asia,Latin America,Middle Near East,Africa,Oceania,Russia and East Europe.
System : SC-HD301
SC-HD501



SPECIFICATIONS

Because of unique interconnecting cables, when a component requires service, send or bring in the entire system.

Note: Refer to the service manual for Model No. SE-HD301/ 501(ORDER NO. AD9902013C2 and AD9902014C2) for information on "ACCESSORIES", "INSTALLATION", "CONNECTIONS" and "PACKAGING".

AR-1 MECHANISM SERIES

Specifications

■Audio Section	
Track system	4 track, 2 channel
Frequency response	
(Dolby NR off) (Rec. /Play)	
TYPE I (Normal)	30Hz-16kHz (DIN)
TYPE II (High)	30Hz-16kHz (DIN)
TYPE IV (Metal)	30Hz-16kHz (DIN)
S/N (Signal level=max recording level, TYPE II type tape)	
NR off	56dB (A weighted)
Dolby B NR on	64dB (A weighted)
■Motors	
Capstan drive	DC servo motor
Reel table drive	DC motor
Tape speed	4.8 cm/s
Wow and flutter	0.1% (WRMS)
Fast forward and rewind times	Approx. 52 seconds with C-60 cassette tape

■General	
Dimensions (W×H×D):	(RS-HD301) 186×104× 221 mm
	:(RS-HD501) 196×104× 221 mm
Weight	1.6kg
Power supply	DC13V/10V
Power consumption	10W

Notes:
1. Dimensions and weight are approximate.
2. Design and specifications are subject to change without notice.

* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY", and the double-D symbol are trade marks of Dolby Laboratories Licensing Corporation.

System/SC-HD301:
Tuner: ST-HD301, Compact Disc Player: SL-HD301, Amplifier: SE-HD301, **Cassette Deck: RS-HD301**, Speaker: SB-HD301 (Made in PAES.)
System/SC-HD501:
Tuner: ST-HD501, Compact Disc Player: SL-HD501, Amplifier: SE-HD501, **Cassette Deck: RS-HD501**, Speaker: SB-HD501 (Made in PAES.)

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Technics®

1. Before Repair

This equipment(RS-HD301/501), which is a component of this system, is supplied with power from the amplifier(SE-HD301/501) through the tuner (ST-HD301/501). When repairing this equipment or checking operation of the system, be sure to connect the amplifier and tuner with it.
This equipment, even in the state of it as a single equipment, permits power supply and operation check. When operating it as a single equipment without the amplifier and tuner, refer to the paragraph of "4 Measurements and Adjustments".

2. Operating Instructions

3. Operation Checks and Main Component Replacement Procedures

NOTE 1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.

2. For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.

3. Select item from the following index when checks or replacement are required.

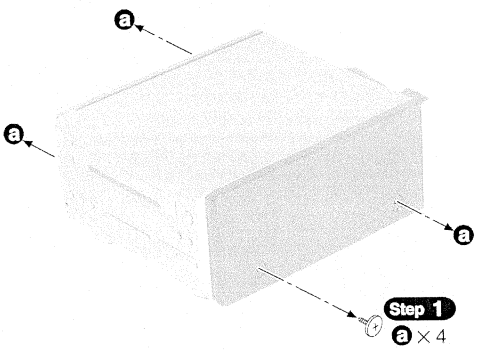
• Contents

■ Checking Procedures for each P.C.B.
1. Checking for the operation P.C.B..
2. Checking for the main P.C.B..

■ Main Component Replacement Procedures
1. Replacement for the cassette holder ass'y.
2. Replacement for the belt, reel motor ass'y and capstan motor ass'y.
3. Replacement for the parts mounted on mechanism P.C.B..
4. Replacement for the head block and pinch roller ass'y.

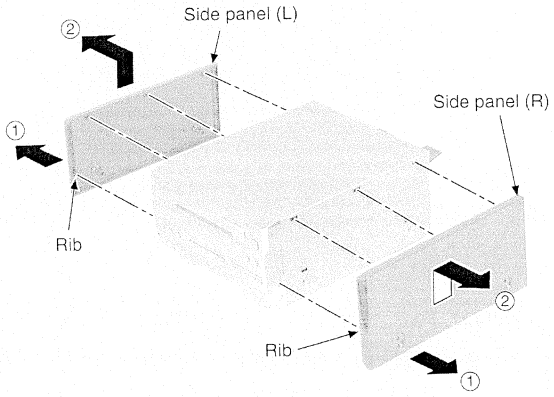
■ Checking Procedures for each P.C.B.

1. Checking for the operation P.C.B.

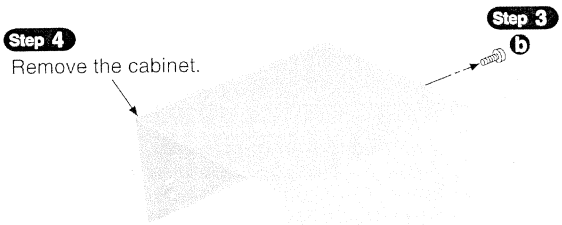


Step 2

Remove the side panel (L), (R).
(Spread the lower part of the side panels in the direction of arrow ① to release the ribs, and then lift to remove the side panels in the direction of arrow ②.)



Step 3

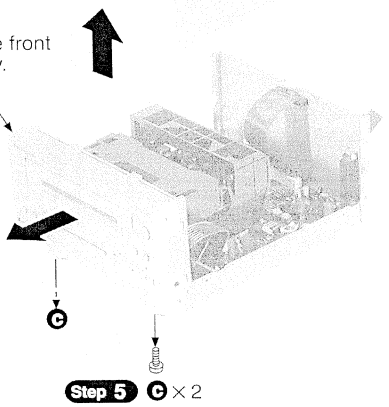


Step 4

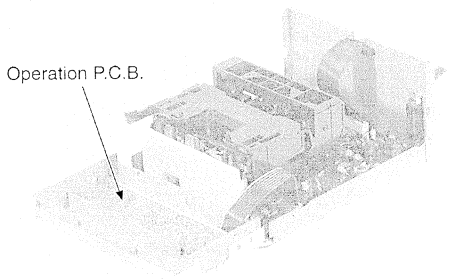
Remove the cabinet.

Step 6

Pull out the front panel ass'y.

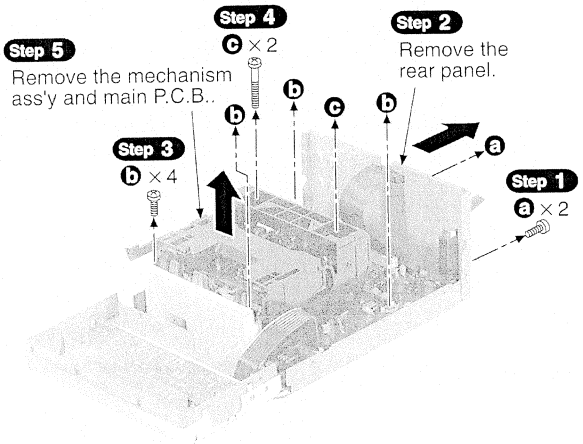


· Check the operation P.C.B. as shown below.

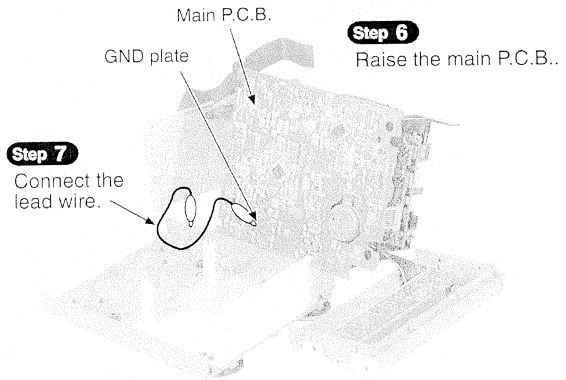


2. Checking for the main P.C.B.

· Follow the Step 1 ~ Step 6 of the item 1 in checking procedure for each P.C.B..



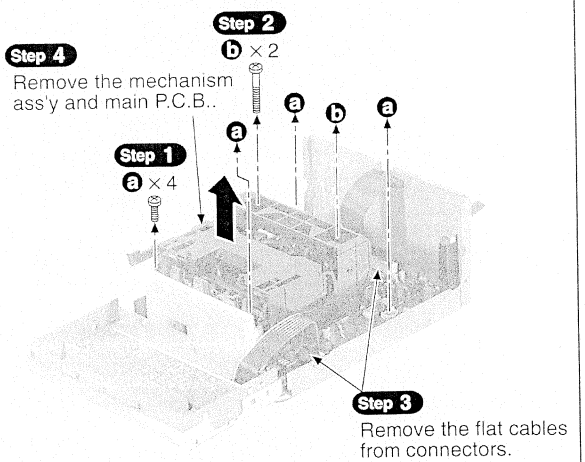
· Check the main P.C.B. as shown below.



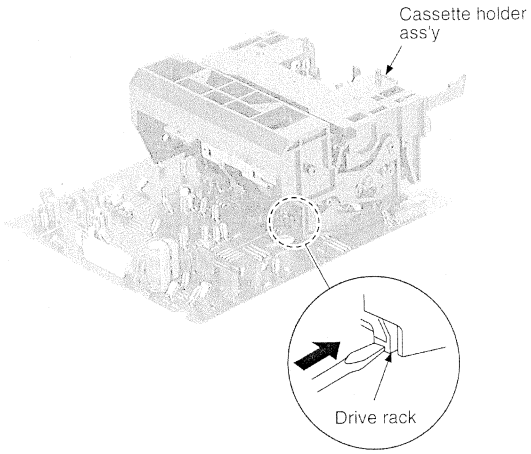
■ Main Component Replacement Procedures

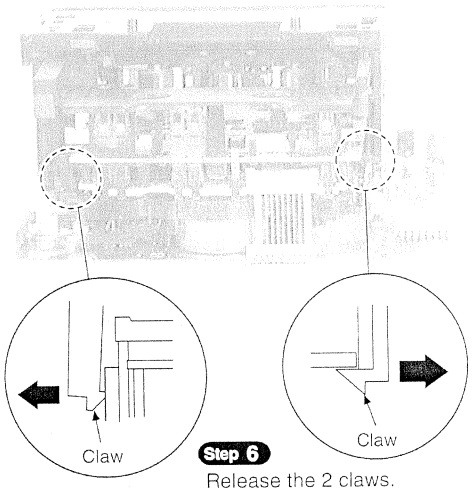
1. Replacement for the cassette holder ass'y

· Follow the Step 1 ~ Step 6 of the item 1 in checking procedure for each P.C.B..

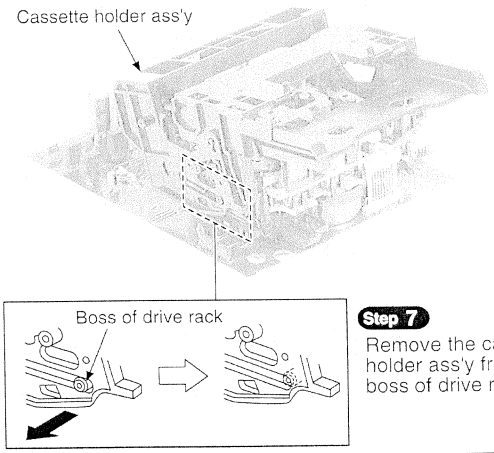


Step 5
Press the drive rack with minus screwdriver, and then open the cassette holder ass'y.





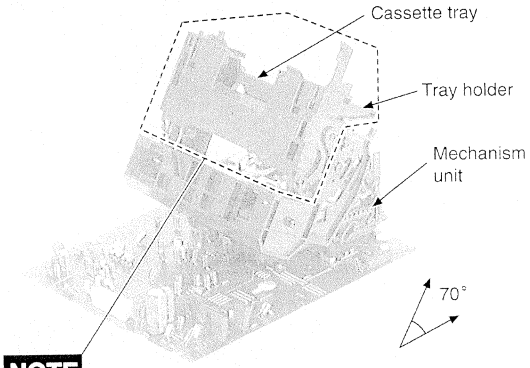
Step 6
Release the 2 claws.



Step 7
Remove the cassette holder ass'y from the boss of drive rack.

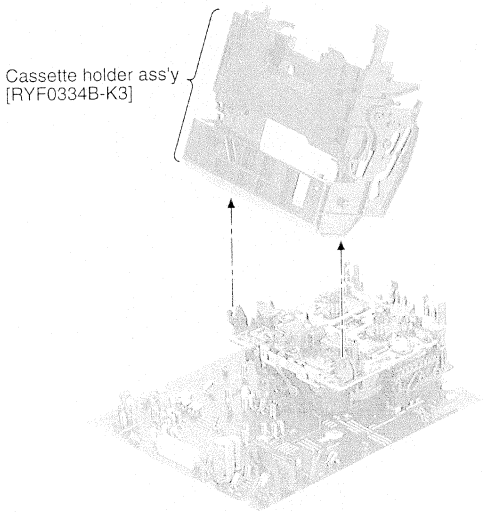
Step 8

Locate the cassette holder ass'y and mechanism unit at a 70 degree angle, and then pull out the cassette holder ass'y.

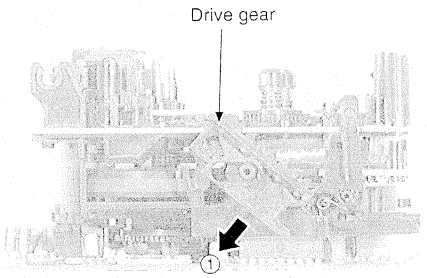


NOTE

When removing the cassette holder ass'y, avoid to pull it with holding cassette tray or tray holder.

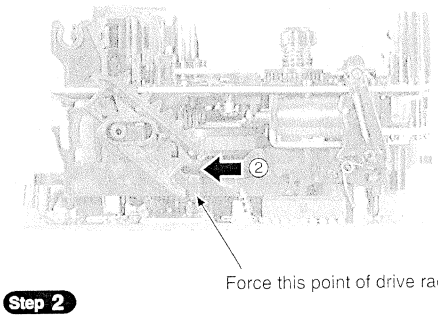


Installation of the cassette holder ass'y after replacement



Step 1

Tilt the drive gear in the direction of arrow ①.

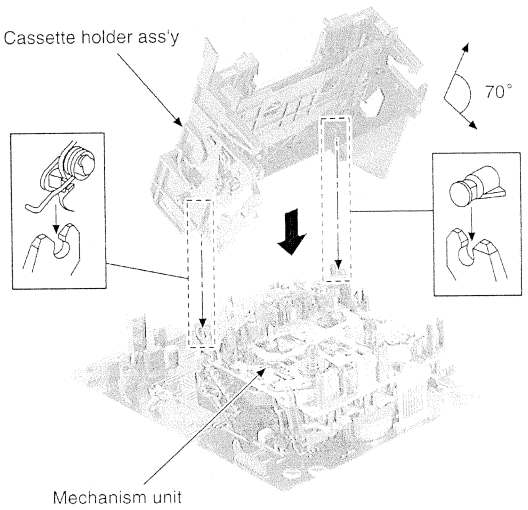


Step 2

Force the drive rack fully in the direction of arrow ②.

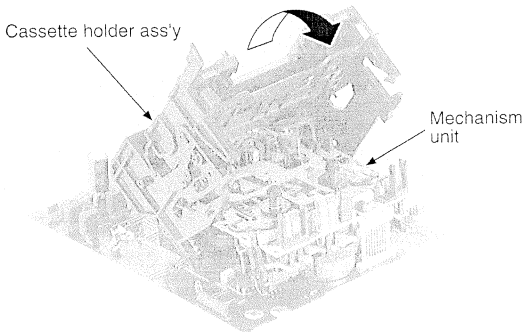
Step 3

Locate the cassette holder ass'y and mechanism unit at a 70 degree angle, and then install the cassette holder ass'y.



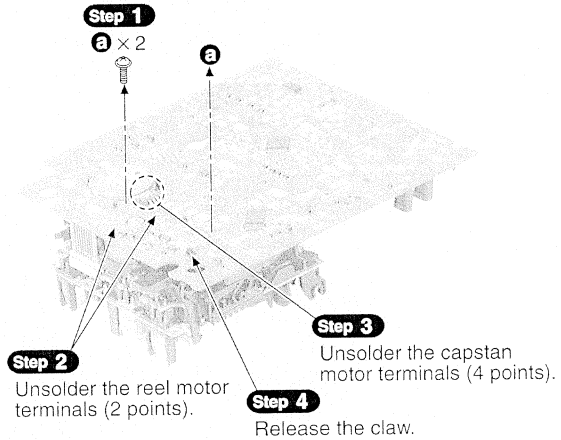
Step 4

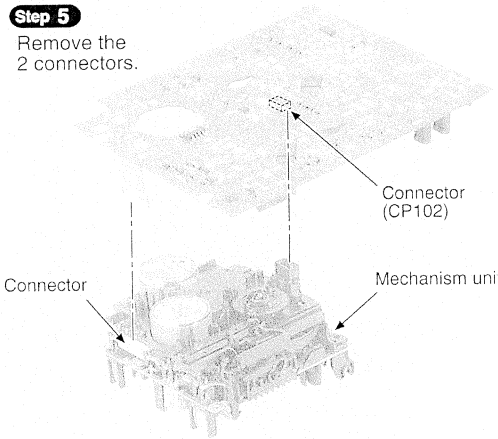
Tilt the cassette holder ass'y in the direction of arrow, and then secure it to the mechanism ass'y.

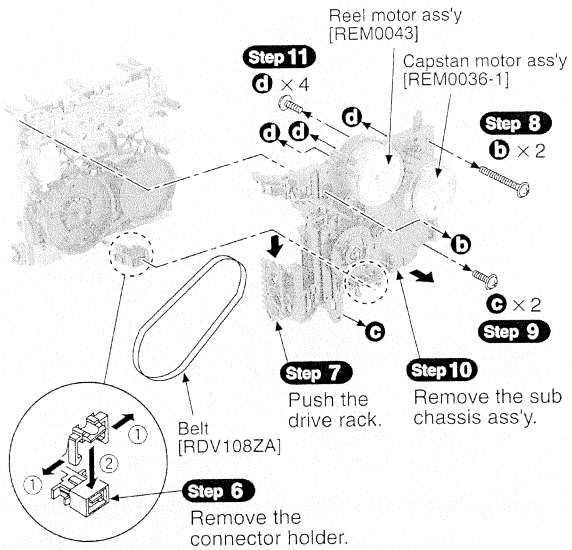


2. Replacement for the belt, reel motor ass'y and capstan motor ass'y

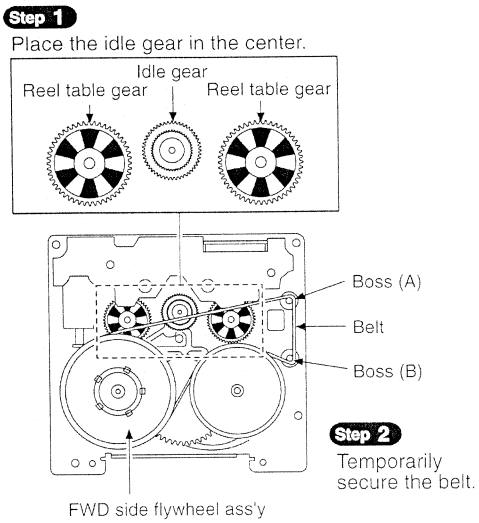
- Follow the Step 1 ~ Step 6 of the item 1 in checking procedure for each P.C.B..
- Follow the Step 1 ~ Step 8 of the item 1 in main component replacement procedures.

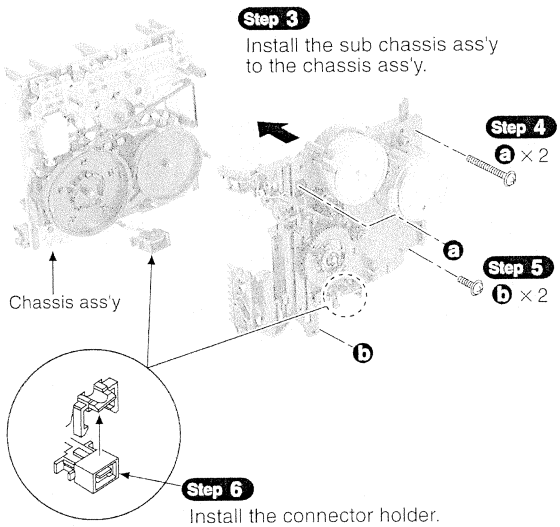


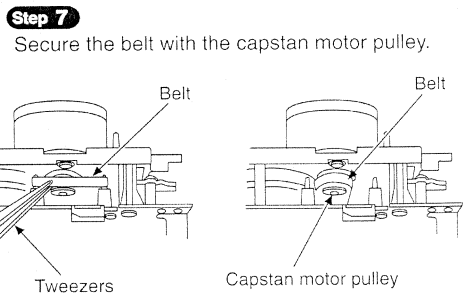




Installation of the sub chassis ass'y after replacement

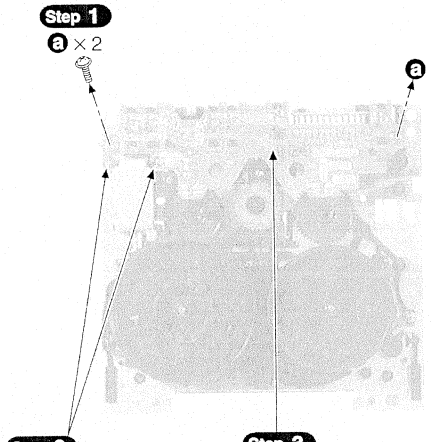






3. Replacement for the parts mounted on mechanism P.C.B.

- Follow the Step 1 ~ Step 6 of the item 1 in checking procedure for each P.C.B..
- Follow the Step 1 ~ Step 8 of the item 1 in main component replacement procedures.
- Follow the Step 1 ~ Step10 of the item 2 in main component replacement procedures.

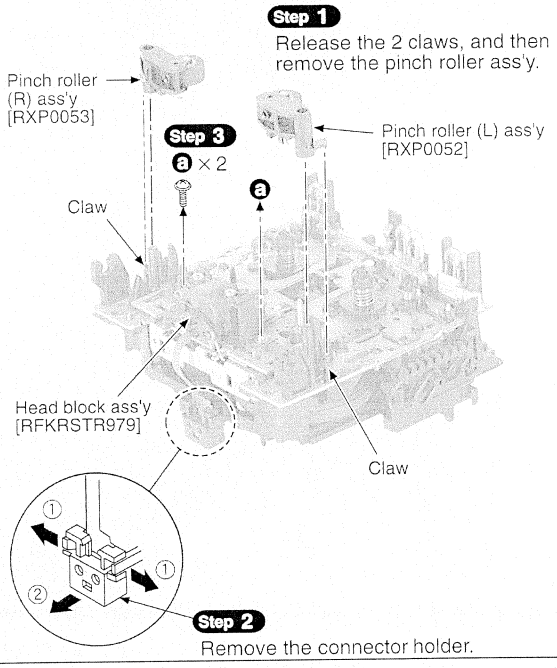


Step 2 Unsolder the terminals.

Step 3 Remove the mechanism P.C.B..

4. Replacement for the head block and pinch roller ass'y

- Follow the Step 1 ~ Step 6 of the item 1 in checking procedure for each P.C.B..
- Follow the Step 1 ~ Step 8 of the item 1 in main component replacement procedures.



Step 2 Remove the connector holder.

4. Measurements and Adjustments

This unit RS-HD301/501 is designed to operate on power supplied from the Amplifier(SE-HD301/501) through Tuner(ST-HD301/501).
When connecting the unit to other system components, do not connect to the Amplifier(SE-HD301/ 501) directly. Be sure to connect this unit through the Tuner(ST-HD301/501).
When operating the unit RS-HD301/501 alone for testing and servicing, without having power supplied from the Amplifier(SE-HD301/501) and Tuner(ST-HD301/501), use the following method.

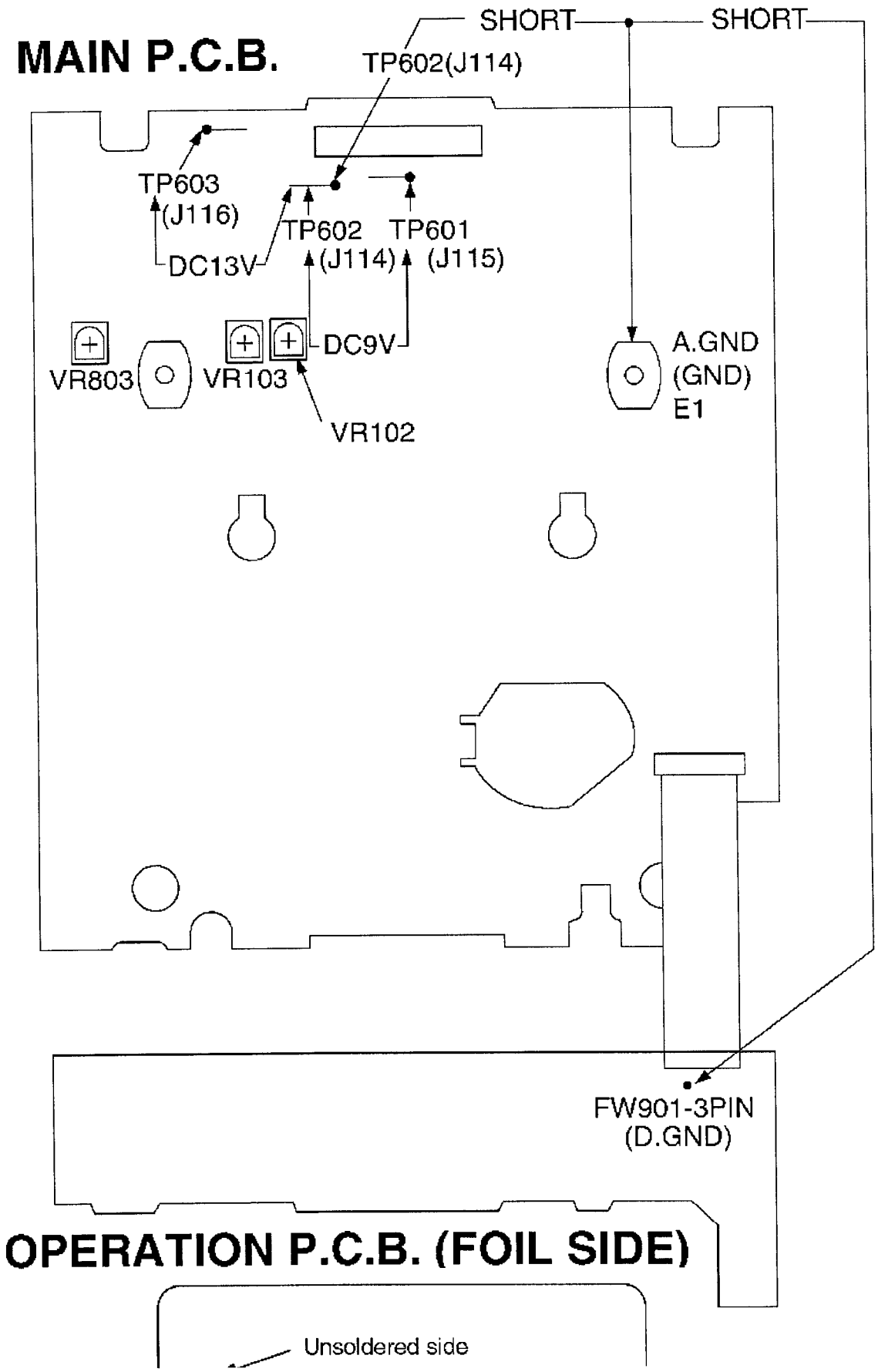
4.1. To Supply Power Source

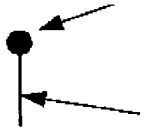
1. Short three sections the test points TP602(J114), A.GND(E1), and FW901-3Pin(D.GND). (As shown in Fig. 1.)
2. Apply 9V DC power to test points between TP601(J115) and TP602(J114) (GND), and apply 13V DC power to test points between TP603(J116) and TP602(GND). (As shown in Fig.1.)
   Note: When operated alone, this unit automatically enter the TEST mode, causing indicators to blink.

4.2. To Check Signals

Connect an oscilloscope or a built-in amplifier speaker between line output for Rch(TP201) and earth plate(E1) (A.GND), and line out for Lch(TP202) and earth plate(E1) (A.GND) and check if the signals are outputting from this unit. (As shown in Fig.1.)

Fig.1


MAIN P.C.B.
SHORT
SHORT
TP602(J114)
TP603
(J116)
DC13V
TP602
(J114)
TP601
(J115)
VR803
VR103
DC9V
VR102
A.GND
(GND)
E1
FW901-3PIN
(D.GND)
OPERATION P.C.B. (FOIL SIDE)
Unsoldered side



Note:
The above symbol indicates a jumper soldred on one side. When this jumper is levered up using a ⊖ screwdriver, its unsoldered side is raised so that it can be seized with an alligator clip.

4.2.1. Measurement Condition

- **Dolby NR switch; OFF**
- **Make sure heads are clean.**
- **Make sure capstan and pressure roller are clean.**
- **Judgeable room temperature 20 ± 5°C(68 ± 9°F)**

4.2.2. Measuring Instrument

- **EVM(Electronic Voltmeter)**
- **AF oscillator**
- **Digital frequency counter**

4.2.3. Test Tape

- **Head azimuth adjustment(8kHz, -20dB); QZZCFM**
- **Tape speed adjustment(3kHz, -10dB); QZZCWAT**
- **Recording/ playback frequency response adjustment;**
  QZZCFM(315Hz/0dB, 315Hz/-20dB, 12.5kHz~63Hz/-20dB)
  QZZCRA(Normal blank tape)
  QZZCRX(CrO2 blank tape)
  QZZCRZ(Metal blank tape)

4.3. Head Azimuth Adjustment

1. Connect the measuring instrument as shown in Fig. 2.
2. Replace azimuth screws for both forward and reverse direction after removing the screw-locking bond left on the head base.
   (Supply part No. of azimath adjusting screw: RHD17015)
3. Playback the azimuth adjustment portion(8kHz, -20dB) of test tape(QZZCFM). Adjust the azimuth adjusting screw until the outputs of the L/Rch are maximized. (Refer to Fig. 3.)
   Make sure that the difference in the peak level between the left and right channels does not exceed 0.5dB.
4. Perform the same adjustment in reverse playback mode.
   Check of the level difference forward and reverse directions
5. Playback the playback gain adjustment portion(315Hz, 0dB) of test tape(QZZCFM). Check if level difference between forward and reverse direction is within 1.5dB.
6. After the adjustment, apply screwlock to the azimuth adjusting screw.

Fig. 2

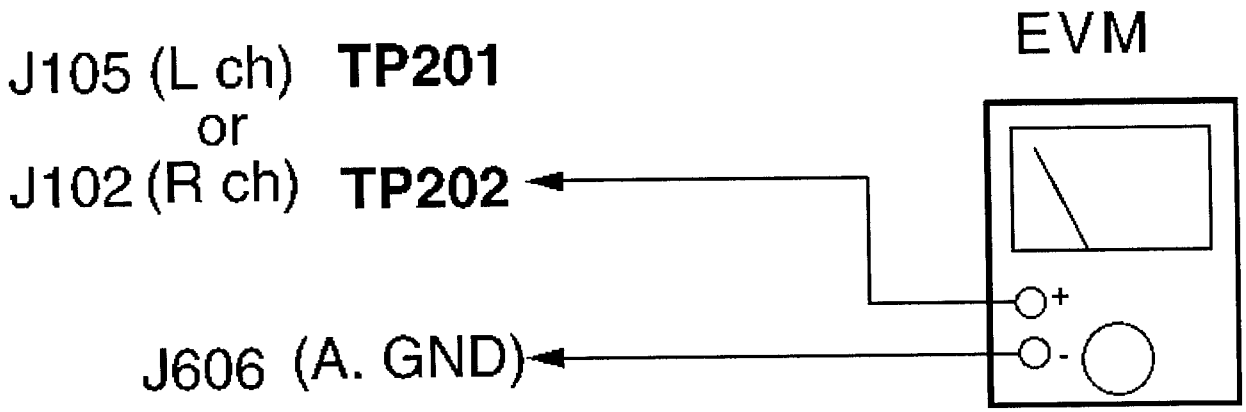
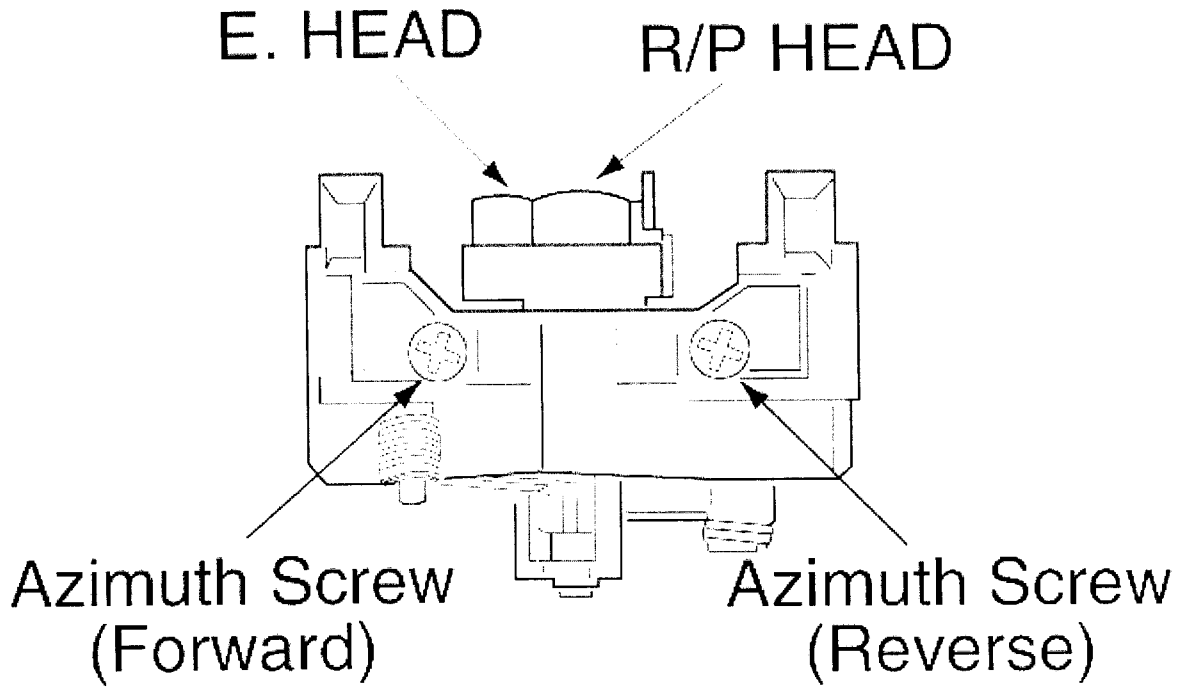


Fig. 3

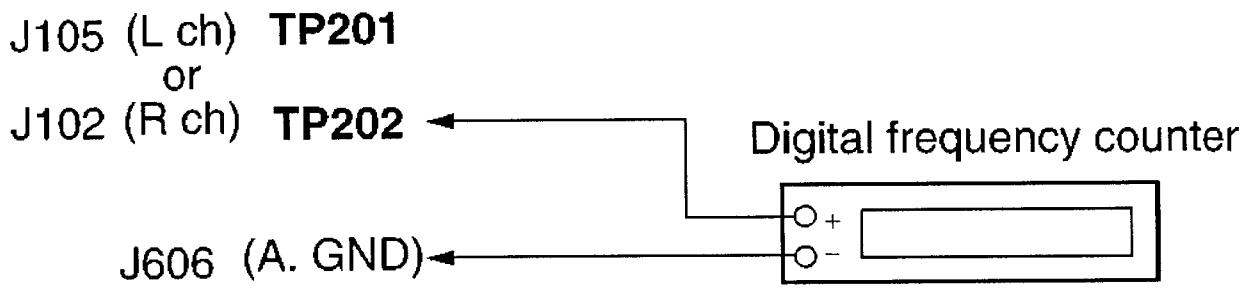


4.4. Tape Speed Adjustment

Note: When connecting the unit to other system components for testing, short the section between the test points(TP701) and(TP702) and turn on the entire system. (The unit is set to the TEST mode, indicators will blink.)
Normal speed (Standard value; 3000 ± 45Hz)

1. **Connect the measuring instrument as shown in Fig. 4.**
2. **Playback the middle portion of the test tape(QZZCWAT).**
3. **Adjust VR803 for the output value shown below. (Refer to Fig. 1)**
   Adjustment target: 3000 ± 15Hz
   Standard value: 3000 ± 45Hz

Fig. 4

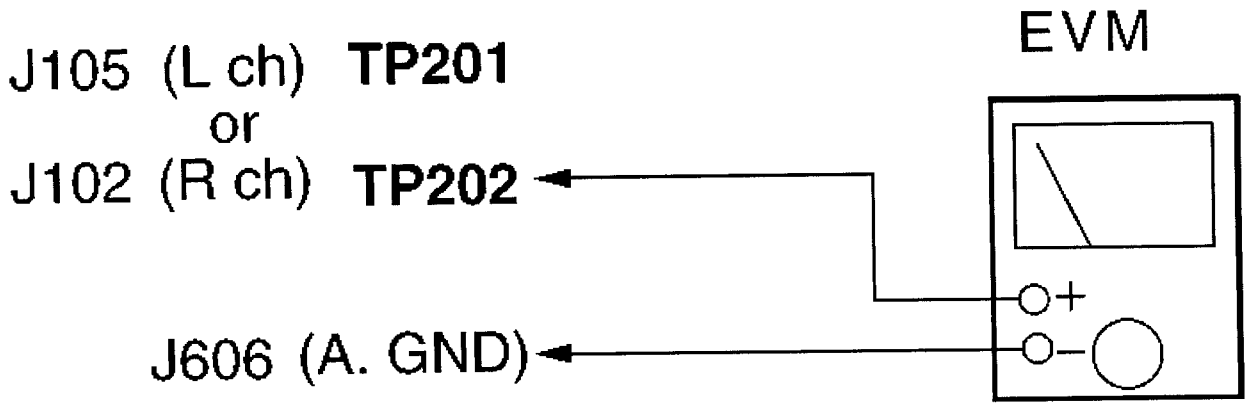


Note: When connecting the unit to other system components, disconnect the short between the test points(TP701) and(TP702).

4.5. Playback Gain Adjustment

1. Connect the measuring instrument as shown in Fig 5.
2. Find the start of the 315Hz/0dB section of the test tape(QZZCFM), insert the tape, and play it back(FWD).
3. Adjust VR103(Rch) [VR102(Lch)] so that the output is within the standard value. (Refer to Fig.1).
   Standard value: 280mV ± 15mV

Fig 5



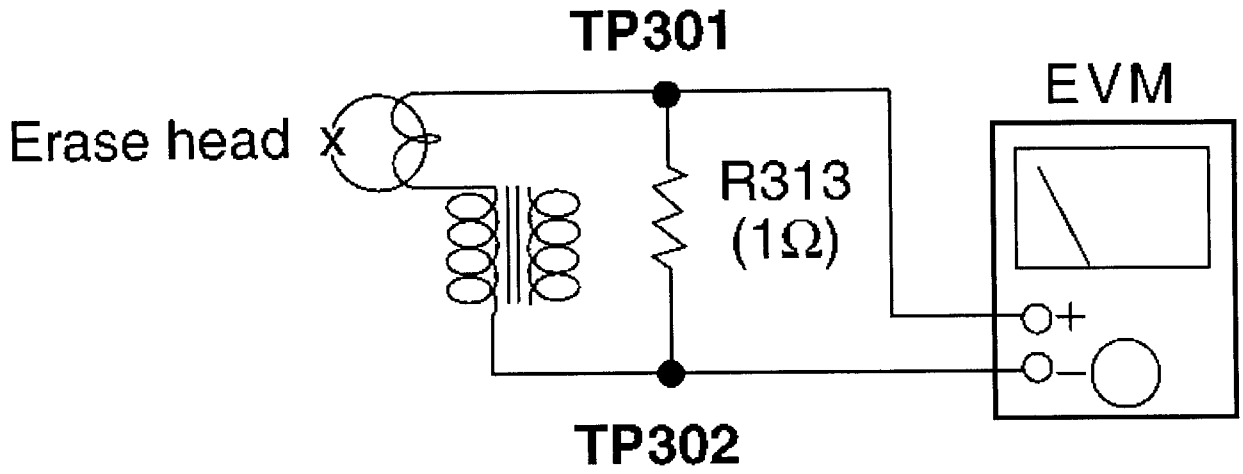
4.6. Erase Current Confirmation

1. Connect the measuring instrument as shown in Fig. 6.
2. Insert the blank tape, and press the REC PAUSE button.
3. Check if the output at this time between the erase current confirmation point(TP301) and(TP302) (the output on both edged of R313) is within the standard value.

Standard value	EVM reading
Normal tape: 75 ± 25 mA	(75 ± 25 mA)
CrO2 tape: 110 ± 25 mA	(110 ± 25 mA)
Metal tape: 180 ± 25 mA	(180 ± 25 mA)

Note: The test tape is not required when confirming the erase current.

Fig. 6



4.7. Playback frequency response check

1. Connect the measuring instrument as shown in Fig. 7
2. Playback the 315Hz/-20dB and 12.5kHz to 63Hz/-20dB sections of the test tape(QZZCFM) and then, using the 315 Hz/-20dB playback output as a reference(0 dB), confirm that the playback frequency response is within the range shown in Fig. 8.

Fig. 7

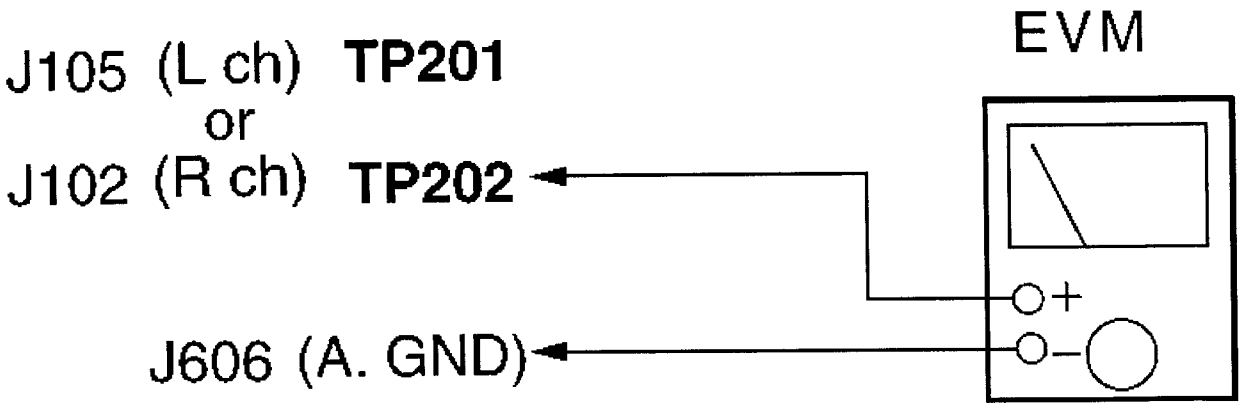
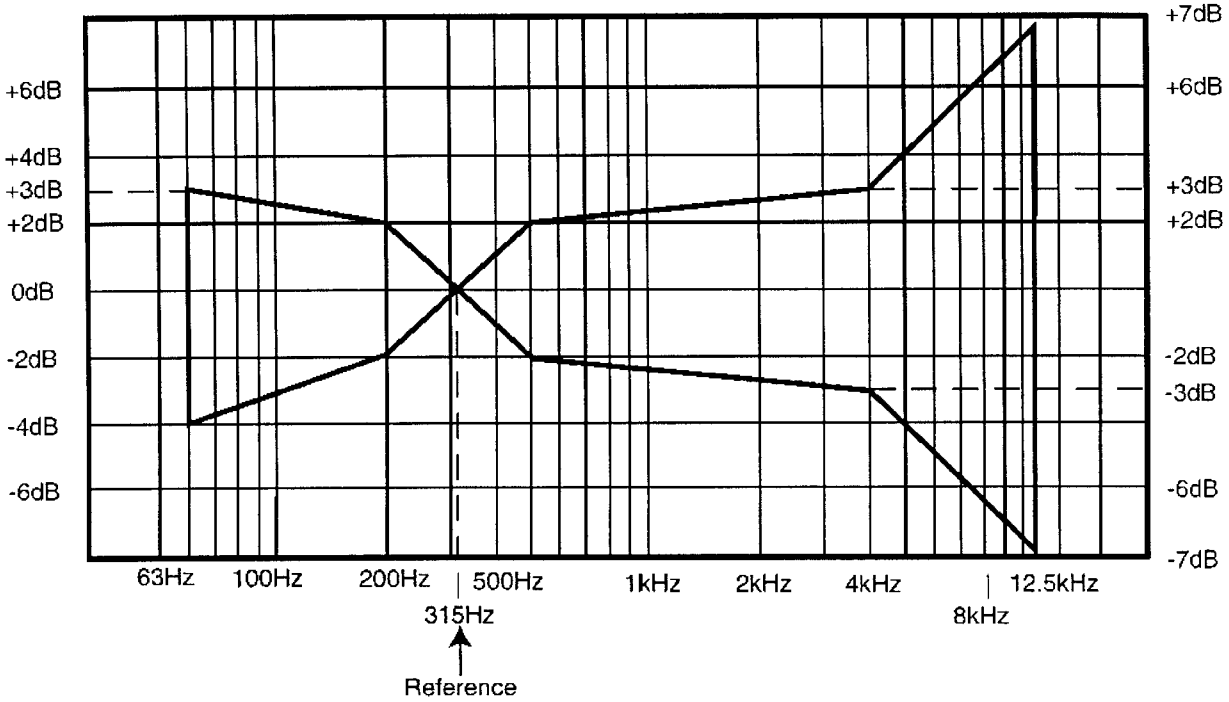


Fig. 8



4.8. Recording/playback frequency response and gain check

Normal tape check

1. **Connect the measuring instrument as shown in Fig.9.**
2. **Set the playback frequency of the recorded signals at 1kHz as the refrence response(0 dB).**
3. **Playback the recorded signals to confirm that the output is within the range of the overall frequency response shown in Fig. 10.**
   CrO2/Metal tape check
4. **Repeat steps 3 to 5 for each tape and confirm that the output for each is within the range of the overall frequency response shown in Fig. 11.**

Fig.9

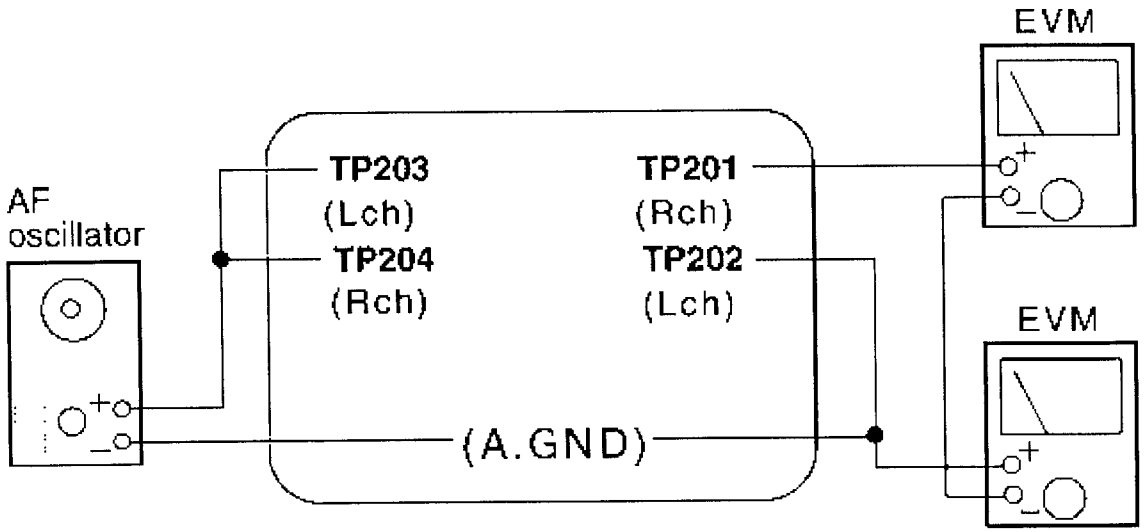

EVM
AF
oscillator
TP203
(Lch)
TP204
(Rch)
TP201
(Rch)
TP202
(Lch)
EVM
(A.GND)

Fig. 10

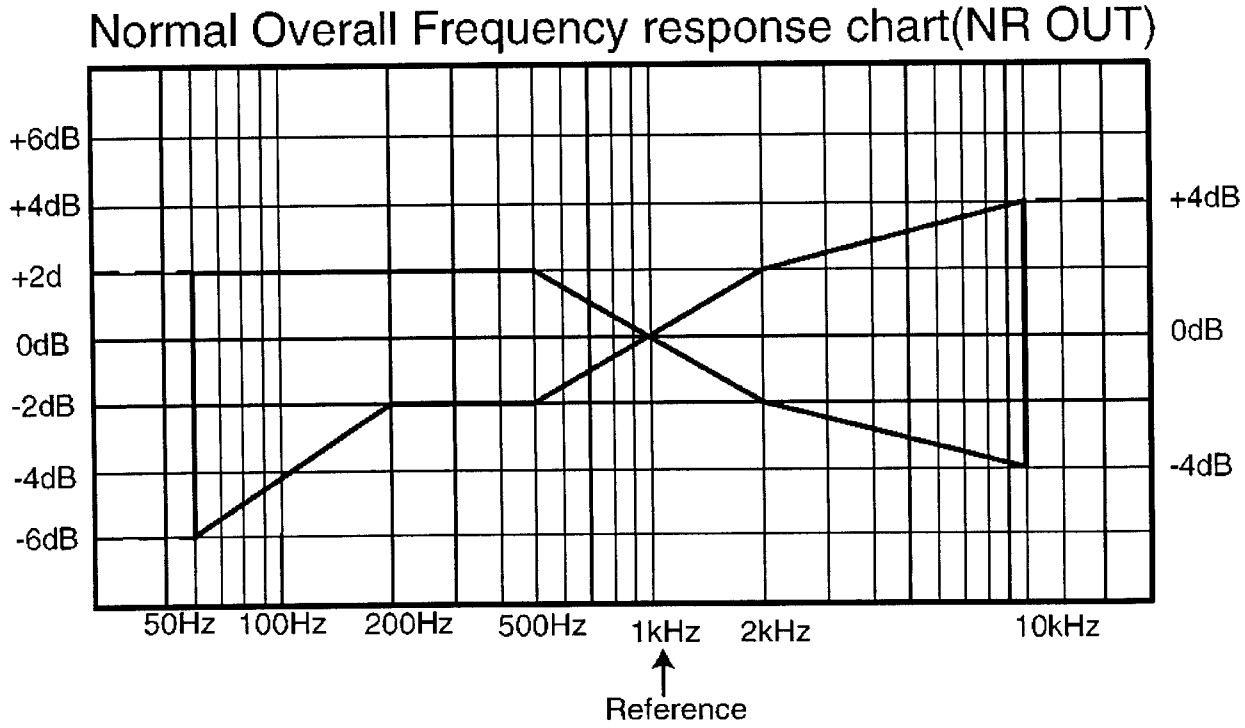
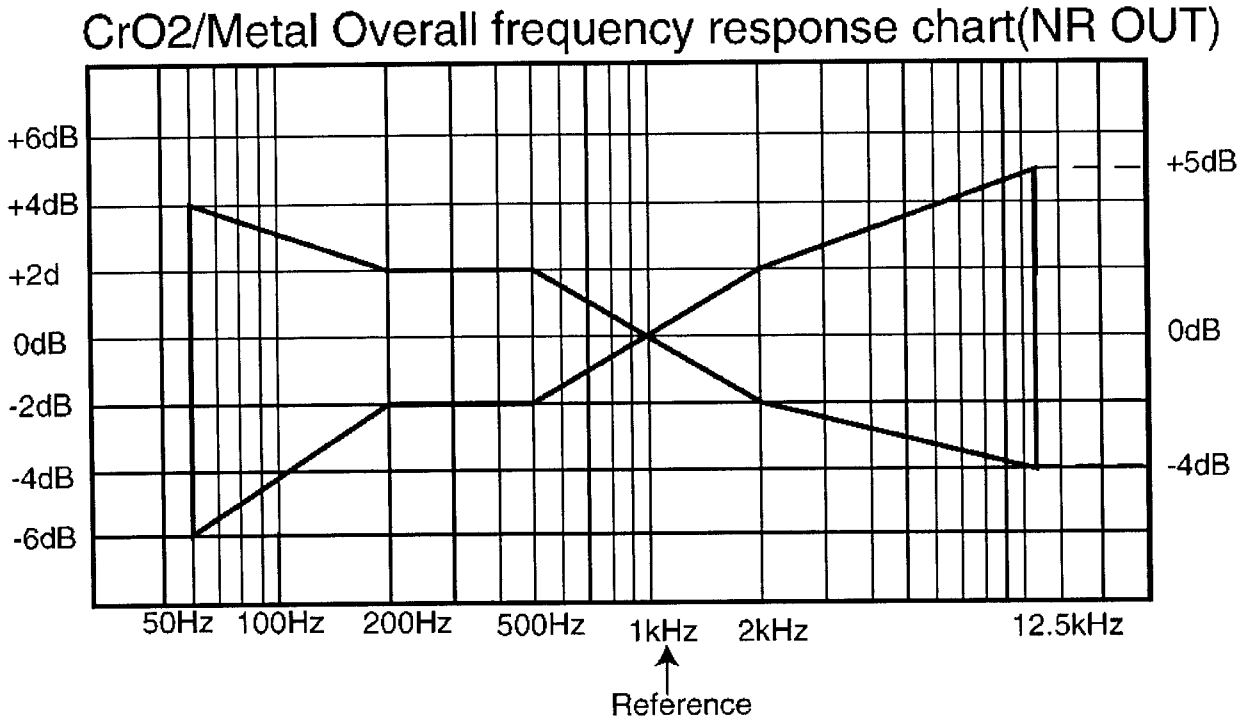

Normal Overall Frequency response chart(NR OUT)
+6dB
+4dB
+2d
0dB
-2dB
-4dB
-6dB
+4dB
0dB
-4dB
50Hz
100Hz
200Hz
500Hz
1kHz
2kHz
10kHz
Reference

Fig. 11



5. Service Mode Function of Cassette Mechanism

This unit is equipped with a service mode function of cassette mechanism using the LED indicators[R.PLAY(◀), F.PLAY(▶)]. Use this function during maintenance to check faults of the items below.

5.1. Cassette tapes to be prepared

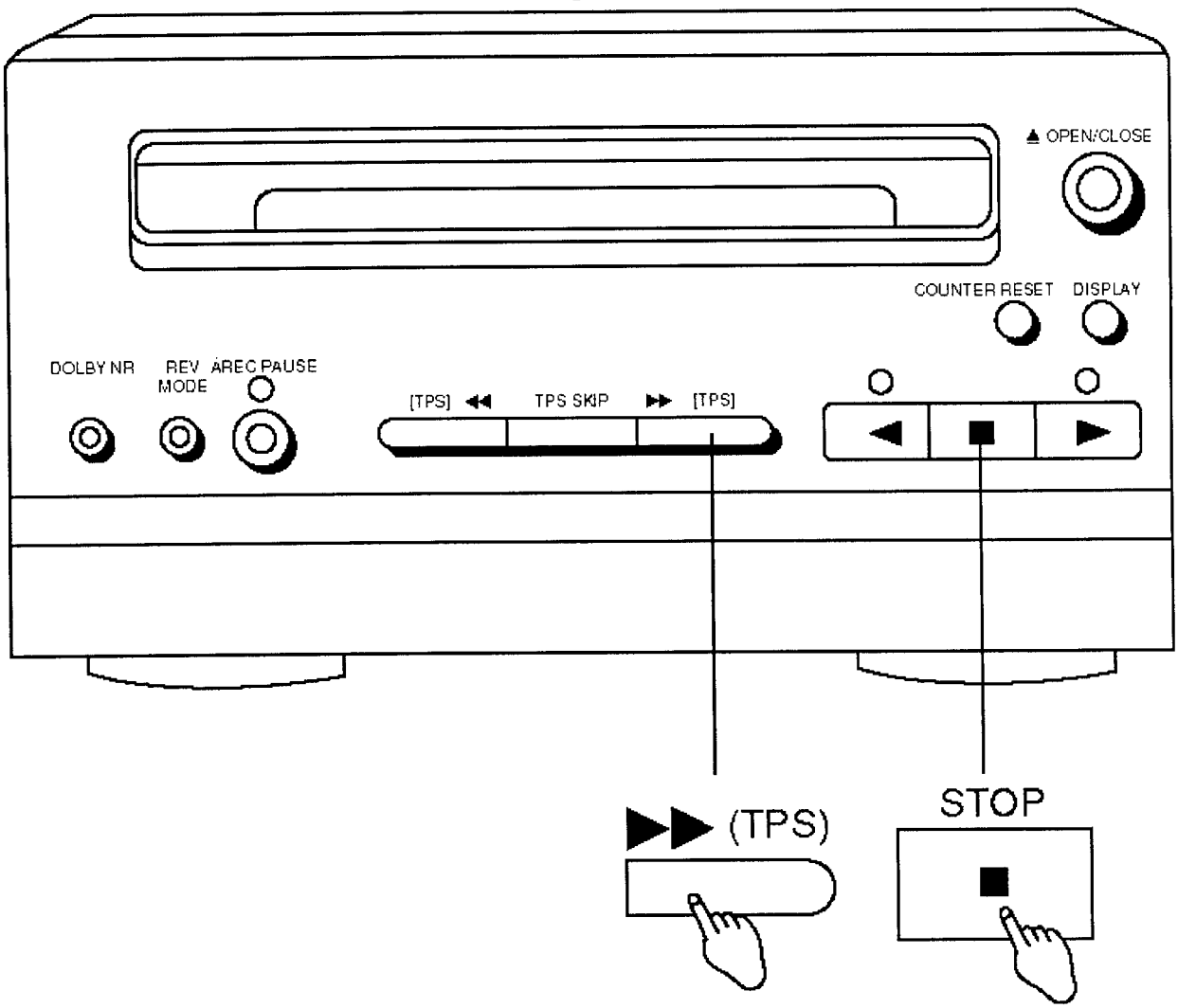
Metal tape: Recorded music tape remaining the only one erase-prevention tab(use middle portion of the tape).
Normal, CrO2 tape: Recorded music tape remaining the both erase-prevention tabs(use middle portion of the tape).

5.2. Selecting Service Mode

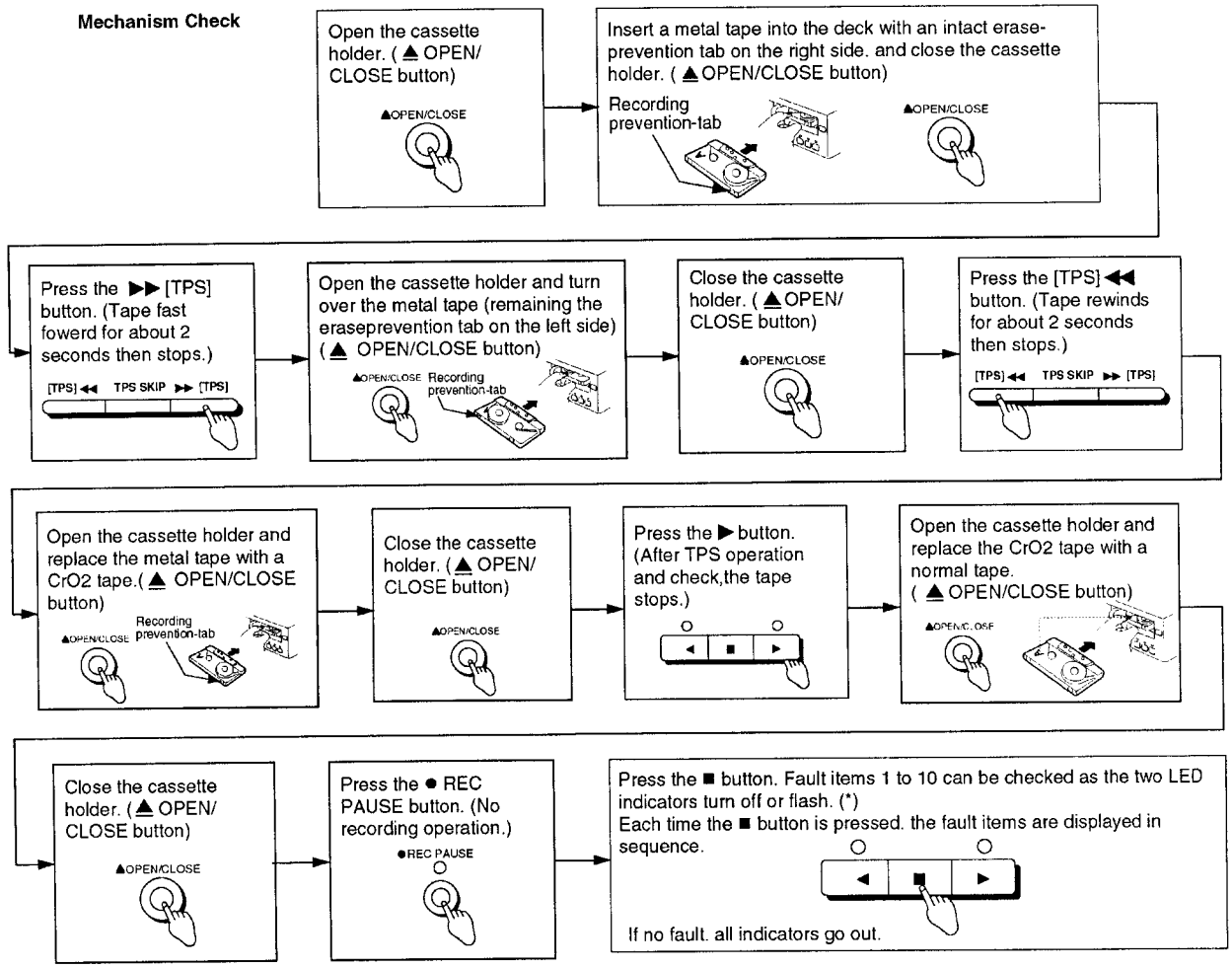
1. **Turn on the power to the unit. (If RS-HD301/501 unit is removed from system, turn it on according to "4 Measurements and Adjustments".)**
2. **Check that no tape is inserted in the cassette deck. Press the ■ button for about 2 seconds, and keep pressing ▶▶ [TPS] button, also let go of the STOP button and wait over 2 seconds. (As shown in Fig. 12.)**

3. The LED indicator for REC PAUSE flashes, the service mode has been activated.

Fig. 12



* : Service mode diagnostic items are as shown in Page 14.


Mechanism Check
Open the cassette holder. (▲ OPEN/ CLOSE button)
▲OPEN/CLOSE
Insert a metal tape into the deck with an intact erase-prevention tab on the right side. and close the cassette holder. (▲OPEN/CLOSE button)
Recording prevention-tab
▲OPEN/CLOSE
Press the ▶▶ [TPS] button. (Tape fast fowerd for about 2 seconds then stops.)
[TPS] ◀◀ TPS SKIP ▶▶ [TPS]
Open the cassette holder and turn over the metal tape (remaining the eraseprevention tab on the left side) (▲ OPEN/CLOSE button)
▲OPEN/CLOSE Recording prevention-tab
Close the cassette holder. (▲OPEN/ CLOSE button)
▲OPEN/CLOSE
Press the [TPS] ◀◀ button. (Tape rewinds for about 2 seconds then stops.)
[TPS] ◀◀ TPS SKIP ▶▶ [TPS]
Open the cassette holder and replace the metal tape with a CrO2 tape.(▲ OPEN/CLOSE button)
▲OPEN/CLOSE Recording prevention-tab
Close the cassette holder. (▲ OPEN/ CLOSE button)
▲OPEN/CLOSE
Press the ▶ button. (After TPS operation and check,the tape stops.)
Open the cassette holder and replace the CrO2 tape with a normal tape. (▲ OPEN/CLOSE button)
▲OPEN/CLOSE
Close the cassette holder. (▲ OPEN/ CLOSE button)
▲OPEN/CLOSE
Press the ● REC PAUSE button. (No recording operation.)
●REC PAUSE
Press the ■ button. Fault items 1 to 10 can be checked as the two LED indicators turn off or flash. (*)
Each time the ■ button is pressed. the fault items are displayed in sequence.
If no fault. all indicators go out.

Service Mode Diagnostic items

Fig. 13

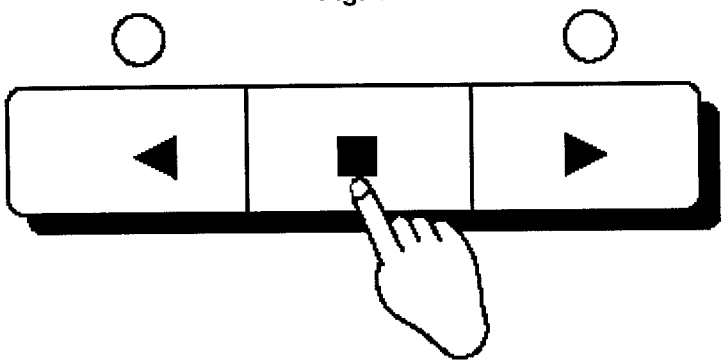
No.	LED indicator status (off/flashing)				Fault location
	orange		green		
	◀	▶	◀	▶	
	–	–	–	–	
1.	●	–	–	–	MODE detect switch
2.	–	●	–	–	REC inh. switch
3.	●	●	–	–	Half detect switch
4.	–	–	●	–	Deck OPEN switch
5.	–	–	–	●	Deck CLOSE switch
6.	–	–	●	●	CrO_2 tape detect switch
7.	●	–	–	–	Metal tape detect switch
8.	–	●	–	–	Rell pulse detect system (Hall IC, etc.)
9.	–	–	●	–	TPS operation
10.	–	–	–	●	Rell motor

Notes:
"●" : Flashing
" – ": off
*If no fault, all indicators go out.

5.3. Exiting Self-Check Mode

1. Press the ■ button for more than 5 seconds. (Diagnostic contents stored in memory are erased.)(As shown in Fig. 14)
2. Remove the cassette tape from the cassette holder.
3. Turn off the unit.

Fig. 14



6. Wiring Connection Diagram

7. Schematic Diagram Notes

7.1. Schematic Diagram Notes

his schematic diagram may be modified at any time with development of new technology.)

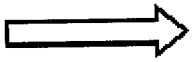
- S803: Cassette holder open detection switch.
- S804: Cassette holder close detection switch.
- S900: Stop (■) switch.
- S901: Reverse (TPS ◀◀) switch.
- S902: R. play (◀) switch.

- S903: F. play (▶) switch.
- S904: Fast forward (▶▶ TPS) switch.
- S905: Rec/ rec pause (REC PAUSE) switch.
- S906: Cassette tray open/ close (⏏OPEN/ CLOSE) switch.
- S907: Reverse-mode (REV MODE) switch.
- S908: Dolby NR (DOLBY NR) switch.
- S909: Display (DISPLAY) switch.
- S910: Counter reset (COUNTER RESET) switch.
- S911: TPS skip (TPS SKIP) switch.
- S971:Mode detection switch.
- S972: Half detection switch.
- S973: CrO2 detection switch.
- S974: Reverse rec. inhibit switch.
- S975: Forward rec. inhibit switch.
- S976: Metal detection switch.
- VR102: Playback gain adj. (Lch) V.R..
- VR103: Playback gain adj. (Rch) V.R..
- VR803: Tape speed adj. V.R..
- Resistance are in ohms (Ω), 1/4 watt unless specified otherwise. 1K=1,000 (Ω), 1M=1,000 (Ω)
- Capacity are in micro-farads (μF) unless specified otherwise.
- All voltage values shown in circuitry are under no signal condition and playback mode with volume control at minimum position otherwise specified. ( )....Voltage values at record mode. For measurement us EVM.
- Voltage values and waveforms are measured as indicated in the schematic diagram when test points between E1 (A.GND) and TP602 are shorted.
- Important safety notice:
  Components identified by ⚠ mark have special characteristics important for

safety.
When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.

: Positive voltage line

: Playback signal line


: Recording signal line

- Caution!
  IC and LSI are sensitive to static electricity.Secondary trouble can be prevented by taking care during repair.
- Cover the parts boxes made of plastics with aluminum foil.
- Put a conductive mat on the work table.
- Do not touch the legs of IC or LSI with the fingers directly.

7.2. Type Illustration of IC's, Transistors and Diodes

8. Schematic Diagram

9. Block Diagram

10. Printed Circuit Board Diagram

11. Terminal Function of IC's

- IC701(M37478M4458F): MICRO COMPUTER

Pin No.	Mark	I/O Division	Function
1	NC	—	—
2	DATA IN	I	Serial data signal input terminal to/from system control IC
3	S-REQ	I	Serial request signal input terminal from system control IC
4	HSPD	O	Speed cont. (Q819) signal output terminal
5	SOL	O	Signal output terminal to solenoid drive (Q813)
6	CSOL	O	Signal output terminal to solenoid drive (Q814)
7	RECINHF-SW	I	Deck forward side tape recording prevention tab detect switch signal input terminal
8	RPS	I	Deck reverse side reel rotation detect pulse signal input terminal
9	RPT	I	Deck forward side reel rotation detect pulse signal input terminal
10	AD-SW	I	Deck2 reel switch signal input terminal
11	ATS	I	Deck tape selector signal input terminal
12	—	—	—
13	KEY1	I	Key switch signal input terminal

Pin No.	Mark	I/O Division	Function
14	—	—	Connected to GND through resistor
15	VREF	I	Reference voltage input terminal
16 17	NC	—	Not used, connected to GND
18 19	XIN XOUT	I O	Crystal oscillator terminal(f=8 MHz)
20	NC	—	Not used, connected to GND
21	AVss	—	GND terminal
22	Vss	—	GND terminal
23	Vcc	I	Power supply input terminal
24	NC	—	Not used, connected to GND
25	TPS	I	Signal input for tune presence det. in TPS operation
26	—	—	Not used, connected to GND
27	NC	—	Not used, connected to GND
28	RESET	I	Reset signal input terminal

Pin No.	Mark	I/O Division	Function
29	NC	—	Not used, connected to GND
30	SYNC	I	Synchronizing signal output to ST-HD301/501(IC701)
31 ~ 33	—	—	Connected to power supply through resistor
34	NC	—	—
35	ADATA	O	Serial data output terminal to IC101
36	ACLK	O	Serial clock output terminal to IC101
37	ALATCH	O	Latch signal output terminal to IC101
38	DMT	O	Muting signal output terminal to IC101

Pin No.	Mark	I/O Division	Function
39	PLAY/STOP	O	Signal output terminal to LED drive(Q903)
40	REVLED	O	Signal output terminal to LED drive(Q904)
41	FWDLED	O	Signal output terminal to LED drive(Q905)
42	REDLED	O	Signal output terminal to LED drive(Q906) ("H": REC)
43	BLU-LED	O	Connected to GND through resistor
44 45	NC	—	Not used, connected to LED drive
46	CAP	O	Signal output terminal to capstan motor drive(Q815)
47	RMR	O	Signal output terminal to reel motot drive(IC801)
48	RMF	O	Signal output terminal to reel motor drive(IC801)
49	CLOSE-SW	I	Deck cassette holder "CLOSE" det. switch signal input terminal
50	NC	—	Not used, connected to GND
51	Vss	—	GND terminal
52	OPEN-SW	I	Deck cassette holder "OPEN" det. switch signal input terminal
53	CS	I	Serial finish signal input terminal to/ from system control IC
54	CLK	O	Serial clock signal output terminal to/from system control IC
55	DATA OUT	O	Serial data output terminal to/from system control IC
56	NC	—	Not used, connected to GND

12. Replacement Parts List

Notes:*Important safety notice:

Components identified by ⚠ mark have special characteristics important for safety. Furthermore, special parts which have purposes of

fireretardant(resistors), high-quality sound(capacitors), low-noise(resistors), etc. are used, When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.
***Capacity values are in microfarads(F) unless specified otherwise, P=Pico-farads(pF) F=Farade(F)**
***Resistance values are in ohms, unless specified otherwise, 1K=1,000(OHM), 1M=1,000k(OHM)**

Ref. No.	Part No.	RemarksPart Name & Description	Pcs	Remarks
	RHD30007-S	SCREW	4	RS-HD301 ONLY
1	RHD30073-K	SCREW	4	RS-HD501 ONLY
	RGK1148-M	SIDE PANEL(L)	1	RS-HD501 ONLY
	RGK1149-M	SIDE PANEL(R)	1	RS-HD501 ONLY
	RGK0812-S	SIDE ORNAMENT(L)	1	RS-HD301 ONLY
4	RGK1140-N	SIDE ORNAMENT(L)	1	RS-HD501 ONLY
	RGK0813-S	SIDE ORNAMENT(R)	1	RS-HD301 ONLY
5	RGK1141-N	SIDE ORNAMENT(R)	1	RS-HD501 ONLY
	RKM0397C-S	CABINET	1	RS-HD301 ONLY
6	RKM0397A-S	CABINET	1	RS-HD501 ONLY
	XTBS3+10JFZ1	SCREW	1	
	RFKGSHD301EN	FRONT PANEL ASS'Y	1	RS-HD301 ONLY
8	RFKGSHD501EN	FRONT PANEL ASS'Y	1	RS-HD501 ONLY
	RFKRSHD7-N	CASSETTE DOOR	1	
	RGL0331-Q2	PANEL LIGHT(A)	3	
	RMB0478	CASSETTE DOOR SPRING	1	
	RGU1391-S	BUTTON	1	
	XTBS26+8J	SCREW	7	
	RKA0076-N2	FOOT	4	
	RKA0083-K	CUSHION	4	
	XTB3+6G	SCREW	4	
	XTBS3+8JFZ1	SCREW	6	
	XTB3+12JFZ	SCREW	4	
	RHD30069	SCREW	2	
	XTW2+6S	SCREW	2	
	REX0949	SYSTEMCONNECTORASS'Y(19P)	1	
	RFKRSTR979	HEAD BLOCK ASS'Y	1	
	RHD17015	AZIMUTH SCREW	2	
	RMB0352-1	SPRING	1	
	RMQ0360A	CONNECTOR HOLDER	1	
	RDV108ZA	BELT	1	
	RDK0019A-1J	MAIN GEAR	1	
	RXG0036	REEL TABLE GEAR	2	
	RXL0106	IDLE GEAR	1	
	RXP0052	PINCH ROLLER(L) ASS'Y	1	
	RMB0259	SPRING	1	
	RXP0053	PINCH ROLLER(R) ASS'Y	1	
	RMB0260	SPRING	1	
	RDG0206A-1	GEAR	1	
	RDG0209A	GEAR	1	
	REM0036-1	CAPSTAN MOTOR ASS'Y	1	
	REM0043	REEL MOTOR ASS'Y	1	
	RHD26013	SCREW	4	

Ref. No.	Part No.	RemarksPart Name & Description	Pcs	Remarks
229	RMQ0537	DRIVE GEAR	1	
231	RXG0037	GEAR ASS'Y	1	
232	RMQ0536	DRIVE RACK	1	
233	RYF0334B-K2	CASSETTE HOLDER	1	
233-1	RMC0310	SPRING	2	
233-2	RMB0397	SPRING	1	
234	XTW26+6L	SCREW	2	
235	XTW2+6S	SCREW	2	
236	RXR0018	REEL TABLE	2	
241	XTW2+5L	SCREW	2	
242	XTW26+12S	SCREW	2	
C101,02	ECUV1H221KBN	50V 220P	2	
C105,06	ECEA1EKS4R7	25V 4.7U	2	
C107,08	ECEA0JKS470	6.3V 47U	2	
C109,10	ECUV1H561KBN	50V 560P	2	
C111,12	ECUV1E183KBN	25V 0.018U	2	
C113,14	ECUV1H331KBN	50V 330P	2	
C115,16	ECEA1EKS4R7	25V 4.7U	2	
C119,20	ECEA1EKS4R7	25V 4.7U	2	
C121	ECEA1HKSR33	50V 0.33U	1	
C122	ECUV1E223KBN	25V 0.022U	1	
C123	ECUV1E153KBN	25V 0.015U	1	
C124	ECUV1H102KBN	50V 1000P	1	
C125	ECEA1AKS220	10V 22U	1	
C126	RCE1AKA101BG	10V 100U	1	
C127	RCE1CKA100BG	16V 10U	1	
C128	ECEA0JKS470	6.3V 47U	1	
C130-32	ECUV1H331KBN	50V 330P	3	
C133	ECEA1HKS010	50V 1U	1	
C134	RCE1HKA3R3BG	50V 3.3U	1	
C141	ECUV1H471KBN	50V 470P	1	
C144	ECUV1H471KBN	50V 470P	1	
C145,46	ECUV1H332KBN	50V 3300P	2	
C150	ECUV1E104ZFN	25V 0.1U	1	
C203,04	ECEA1EKS4R7	25V 4.7U	2	
C205,06	ECEA1HKS010	50V 1U	2	
C207,08	ECUV1H820JCN	50V 82P	2	
C211,12	ECUV1H152KBN	50V 1500P	2	
C213,14	ECEA1EKS4R7	25V 4.7U	2	
C215,16	RCE1CKA100BG	16V 10U	2	
C217,18	ECEA1HKS0R1	50V 0.1U	2	
C219	ECEA1CKS101	16V 100U	1	
C220	ECA1AM471	10V 470U	1	
C221,22	ECEA1HKAR68B	50V 0.68U	2	
C223	RCE1CKA100BG	16V 10U	1	
C239,40	ECUV1H681KBN	50V 680P	2	
C303	ECQP2A472JZT	100V 4700P	1	
C304	RCE1AKA101BG	10V 100U	1	
C305	ECEA1HKS0R1	50V 0.1U	1	
C306	ECQB1H393JF3	50V 0.039U	1	
C307	ECUV1H102KBN	50V 1000P	1	
C308	ECUV1H332KBN	50V 3300P	1	
C309	ECEA0JKS470	6.3V 47U	1	

Ref. No.	Part No.	RemarksPart Name & Description	Pcs	Remarks
C310,11	ECUV1E333KBN	25V 0.033U	2	
C312	ECEA1HSN2R2	50V 2.2U	1	
C323	ECUV1H102KBN	50V 1000P	1	
C601	ECUV1E104ZFN	25V 0.1U	1	
C603	ECA1EM222	25V 2200U	1	
C604	ECA1EM472	25V 1000U	1	
C606	ECUV1E104ZFN	25V 0.1U	1	
C607	ECA1AM471	10V 470U	1	
C608	RCE1AKA101BG	10V 100U	1	
C609	ECUV1H103KBN	50V 0.01U	1	
C611	ECEA1HKS010	50V 1U	1	
C613	RCE1AKA470BG	10V 47U	1	
C614,15	ECUV1H103KBN	50V 0.01U	2	
C616,17	ECUV1H102KBN	50V 1000P	2	
C618	RCE1HKA3R3BG	50V 3.3U	1	
C701	ECUV1E104ZFN	25V 0.1U	1	
C702	ECEA0JKS101	6.3V 100U	1	
C705	ECUV1E104ZFN	25V 0.1U	1	
C706	ECST0JY335RR	6.3V 3.3U	1	
C707	ECUV1H103KBN	50V 0.01U	1	
C712-15	ECUV1H101KCN	50V 100P	4	
C803	ECST1AY475RR	10V 4.7U	1	
C804	ECUV1H103KBN	50V 0.01U	1	
C816	ECUV1E104ZFN	25V 0.1U	1	
C912,13	ECUV1H101KCN	50V 100P	2	
C915-17	ECUV1H101KCN	50V 100P	3	
C918	ECUV1H221KBN	50V 220P	1	
CP102	RJS2A0205-2S	CONNECTOR(5P)	1	
CP901A,1B	RJS1A6604	CONNECTOR(4P)	2	
CP902	RJT071H11A	CONNECTOR(11P)	1	
CP971	RJU071H11M	CONNECTOR(11P)	1	
D201	MA110TX	DIODE	1	
D301	MA110TX	DIODE	1	
D601,02	RL1N4003N02	DIODE	2	
D609	MA723TA	DIODE	1	
D610 ⚠	MTZJ10B	DIODE	1	
D611 ⚠	MTZJ9R1C	DIODE	1	
D612 ⚠	MTZJ5R6B	DIODE	1	
D613	MA723TA	DIODE	1	
D705	MA8039H	DIODE	1	
D706	MA110TX	DIODE	1	
D707	MTZJ5R1B	DIODE	1	
D708-10	MA110TX	DIODE	3	
D715	MA728TX	DIODE	1	
D801	MA112TX	DIODE	1	
D802	MA704ATX	DIODE	1	
D803	MA110TX	DIODE	1	

Ref. No.	Part No.	RemarksPart Name & Description	Pcs	Remarks
D804	MA8047M	DIODE	1	
D805	RL1N4003N02	DIODE	1	
D901	SLR-305VC	L.E.D.	1	
D902,03	SPR-305MDTF	L.E.D.	2	
D908,09	MA110TX	DIODE	2	
D971	RVD1SS133TA	DIODE	1	
FW901	REZ0885	FLAT CABLE(8P)	1	
IC101	A1898QT6BC	IC	1	
IC103	BA7755AF	IC	1	
IC201	CXA1552M-T4	IC	1	
IC701	M37478M4458F	IC	1	
IC801	BA6418N	IC	1	
IC971,72	RVSGP2S24BC	IC	2	
JK601	RJS2A5519-1	JACK(19P)	1	
L201,02	SLQX303-1KT	COIL	2	
L301	RL08C006M-T	COIL	1	
L302	RLQZB470KT-D	COIL	1	
L701	RLQA100JT-Y	COIL	1	
L702	RLQZP1R0KT-Y	COIL	1	
Q101-06	2SJ163PQRTX	TRANSISTOR	6	
Q107	DTA114EUT106	TRANSISTOR	1	
Q111	2SD601ATX	TRANSISTOR	1	
Q112	DTA114EUT106	TRANSISTOR	1	
Q113,14	2SD1328QRSTX	TRANSISTOR	2	
Q201,02	2SJ106GBT85L	TRANSISTOR	2	
Q301	2SD601A	TRANSISTOR	1	
Q302	2SD1328QRSTX	TRANSISTOR	1	
Q303,04	2SD874QRSTX	TRANSISTOR	2	
Q305,06	DTC144EUT106	TRANSISTOR	2	
Q602 ⚠	2SD2137PQTA	TRANSISTOR	1	
Q603 ⚠	2SD1862QRT V6 1	TRANSISTOR	1	
Q605 ⚠	2SD2137PQTA	TRANSISTOR	1	
Q606	2SD601ATX	TRANSISTOR	1	
Q609 ⚠	2SD2137PQTA	TRANSISTOR	1	
Q701-03	2SD601ATX	TRANSISTOR	3	
Q706	UN5214TX	TRANSISTOR	1	
Q709	2SD601ATX	TRANSISTOR	1	
Q811,12	2SA1797QT101	TRANSISTOR	2	
Q813-15	DTC114EUT106	TRANSISTOR	3	
Q816	2SA1797QT101	TRANSISTOR	1	
Q817	2SD874QRSTX	TRANSISTOR	1	
Q818	2SA1797QT101	TRANSISTOR	1	
Q819	DTC114EUT106	TRANSISTOR	1	
Q822	2SD601ATX	TRANSISTOR	1	

Ref. No.	Part No.	RemarksPart Name & Description	Pcs	Remarks
Q901,02	DTA114EUT106	TRANSISTOR	2	
Q903	DTC143ZUA106	TRANSISTOR	1	
Q904-06	DTC114EUT106	TRANSISTOR	3	
R101,02	ERJ6GEYJ682V	1/10W 6.8K	2	
R103,04	ERJ6GEYJ104V	1/10W 100K	2	
R105,06	ERJ6GEYJ102Z	1/10W 1K	2	
R107,08	ERJ6GEYJ820V	1/10W 82	2	
R110	ERJ6GEYJ334V	1/10W 330K	1	
R111,12	ERJ6GEYJ101V	1/10W 100	2	
R113,14	ERJ6GEYJ103V	1/10W 10K	2	
R117	ERJ6GEYJ123V	1/10W 12K	1	
R118	ERJ6GEYJ102Z	1/10W 1K	1	
R119,20	ERJ6GEYJ330V	1/10W 33	2	
R121,22	ERJ6GEYJ225V	1/10W 2.2M	2	
R123-26	ERJ6GEYJ104V	1/10W 100K	4	
R127,28	ERJ6GEYJ222V	1/10W 2.2K	2	
R129	ERJ6GEYJ333V	1/10W 33K	1	
R130	ERJ6GEYJ273V	1/10W 27K	1	
R131	ERJ6GEYJ562V	1/10W 5.6K	1	
R132	ERJ6GEYJ104V	1/10W 100K	1	
R133	ERJ6GEYJ103V	1/10W 10K	1	
R135	ERJ6GEYJ334V	1/10W 330K	1	
R137	ERJ6GEYJ334V	1/10W 330K	1	
R141	ERJ6GEYJ103V	1/10W 10K	1	
R145	ERJ6GEYJ183V	1/10W 18K	1	
R148,49	ERJ6GEYJ562V	1/10W 5.6K	2	
R153,54	ERJ6GEYJ102Z	1/10W 1K	2	
R157,58	ERJ6GEYJ223V	1/10W 22K	2	
R159	ERJ6GEYJ104V	1/10W 100K	1	
R160	ERJ6GEYJ103V	1/10W 10K	1	
R165,66	ERJ6GEYJ104V	1/10W 100K	2	
R167-69	ERJ6GEYJ222V	1/10W 2.2K	3	
R170	ERJ6GEYJ472V	1/10W 4.7K	1	
R171	ERJ6GEYJ682V	1/10W 6.8K	1	
R172,73	ERJ6GEYJ122V	1/10W 1.2K	2	
R174	ERJ6GEYJ103V	1/10W 10K	1	
R176	ERJ6GEYJ392V	1/10W 3.9K	1	
R177	ERJ6GEYJ273V	1/10W 27K	1	
R178,79	ERJ6GEYJ334V	1/10W 330K	2	
R207,08	ERJ6GEYJ104V	1/10W 100K	2	
R209,10	ERJ6GEYJ102Z	1/10W 1K	2	
R213,14	ERJ6GEYJ392V	1/10W 3.9K	2	
R215,16	ERJ6GEYJ153V	1/10W 15K	2	
R217,18	ERJ6GEYJ222V	1/10W 2.2K	2	
R219	ERJ6GEYJ183V	1/10W 18K	1	
R220	ERJ6GEYJ220	1/10W 22	1	
R221,22	ERJ6GEYJ221V	1/10W 220	2	
R223	ERJ6GEYJ220	1/10W 22	1	
R230	ERJ6GEYJ103V	1/10W 10K	1	
R231	ERJ6GEYJ334V	1/10W 330K	1	
R241,42	ERJ6GEYJ822V	1/10W 8.2K	2	
R301	ERJ6GEYJ103V	1/10W 10K	1	
R302	ERJ6GEYJ182V	1/10W 1.8K	1	

Ref. No.	Part No.	RemarksPart Name & Description	Pcs	Remarks
R303	ERJ6GEYJ682V	1/10W 6.8K	1	
R304	ERJ6GEYJ223V	1/10W 22K	1	
R305	ERJ6GEYJ103V	1/10W 10K	1	
R306	ERJ6GEYJ223V	1/10W 22K	1	
R307 ⚠	ERDS1FJ2R2	1/2W 2.2	1	
R308	ERJ6GEYJ102Z	1/10W 1K	1	
R309-11	ERJ6GEYJ472V	1/10W 4.7K	3	
R313	ERJ6GEYJ1R0V	1/10W 1	1	
R603	ERJ6GEYJ820V	1/10W 82	1	
R605 ⚠	ERD2FCJ4R7	1/4W 4.7	1	
R607 ⚠	ERD2FCG100	1/4W 10	1	
R608	ERJ6GEYJ5R6V	1/10W 5.6	1	
R610	ERJ6GEYJ471V	1/10W 470	1	
R612,13	ERJ6GEYJ1R0V	1/10W 1	2	
R614	ERJ6GEYJ102Z	1/10W 1K	1	
R615	ERJ6GEYJ332V	1/10W 3.3K	1	
R616	ERJ6GEYJ103V	1/10W 10K	1	
R627,28	ERJ6GEYJ1R0V	1/10W 1	2	
R630	ERDS2FJ1R0	1/4W 1	1	
R631	ERJ6GEYJ181V	1/19W 180	1	
R632,33	ERJ6GEYJ471V	1/10W 470	2	
R634,35	ERJ6GEYJ820V	1/10W 82	2	
R636,37	ERJ6GEYJ181V	1/19W 180	2	
R638	ERJ6GEYJ102Z	1/10W 1K	1	
R701	ERJ6GEYJ103V	1/10W 10K	1	
R704	ERJ6GEYJ472V	1/10W 4.7K	1	
R705	ERJ6GEYJ473V	1/10W 47K	1	
R708	ERJ6GEYJ472V	1/10W 4.7K	1	
R709	ERJ6GEYJ101V	1/10W 100	1	
R710	ERJ6GEYJ102Z	1/10W 1K	1	
R711	ERJ6GEYJ104V	1/10W 100K	1	
R712	ERJ6GEYJ683V	1/10W 68K	1	
R718	ERJ6GEYJ683V	1/10W 68K	1	
R721	ERJ6GEYJ103V	1/10W 10K	1	
R727	ERJ6GEYJ472V	1/10W 4.7K	1	
R728	ERJ6GEYJ103V	1/10W 10K	1	
R729	ERJ6GEYJ472V	1/10W 4.7K	1	
R734	ERJ6GEYJ103V	1/10W 10K	1	
R738	ERJ6GEYJ103V	1/10W 10K	1	
R739	ERJ6GEYJ272V	1/10W 2.7K	1	
R740	ERJ6GEYJ473V	1/10W 47K	1	
R741	ERJ6GEYJ223V	1/10W 22K	1	
R742	ERJ6GEYJ103V	1/10W 10K	1	
R743	ERJ6GEYJ473V	1/10W 47K	1	
R744	ERJ6GEYJ102Z	1/10W 1K	1	
R745	ERJ6GEYJ331V	1/10W 330	1	
R746,47	ERJ6GEYJ472V	1/10W 4.7K	2	
R748,49	ERJ6GEYJ103V	1/10W 10K	2	
R806,07	ERJ6GEYJ103V	1/10W 10K	2	
R808	ERJ6GEYJ392V	1/10W 3.9K	1	

Ref. No.	Part No.	RemarksPart Name & Description	Pcs	Remarks
R809,10	ERJ6GEYJ103V	1/10W 10K	2	
R811	ERJ6GEYJ223V	1/10W 22K	1	
R812	ERJ6GEYJ102Z	1/10W 1K	1	
R813	ERJ6GEYJ103V	1/10W 10K	1	
R814	ERJ6GEYJ223V	1/10W 22K	1	
R815	ERJ6GEYJ821V	1/10W 820	1	
R816	ERJ6GEYJ472V	1/10W 4.7K	1	
R817	ERJ6GEYJ223V	1/10W 22K	1	
R818,19	ERJ6GEYJ821V	1/10W 820	2	
R820	ERDS2FJ2R2	1/4W 2.2	1	
R821	ERJ6GEYJ101V	1/10W 100	1	
R822	ERJ6GEYJ1R0V	1/10W 1	1	
R823	ERJ6GEYJ4R7V	1/10W 4.7	1	
R824	ERJ6GEYJ223V	1/10W 22K	1	
R825	ERJ6GEYJ102Z	1/10W 1K	1	
R827	ERJ6GEYJ222V	1/10W 2.2K	1	
R828	ERJ6GEYJ332V	1/10W 3.3K	1	
R830,31	ERJ6GEYJ4R7V	1/10W 4.7	2	
R900	ERJ6GEYJ821V	1/10W 820	1	
R901	ERJ6GEYJ102Z	1/10W 1K	1	
R902	ERJ6GEYJ122V	1/10W 1.2K	1	
R903	ERJ6GEYJ152V	1/10W 1.5K	1	
R904	ERJ6GEYJ182V	1/10W 1.8K	1	
R905	ERJ6GEYJ222V	1/10W 2.2K	1	
R906	ERJ6GEYJ332V	1/10W 3.3K	1	
R907	ERJ6GEYJ472V	1/10W 4.7K	1	
R908	ERJ6GEYJ682V	1/10W 6.8K	1	
R909	ERJ6GEYJ123V	1/10W 12K	1	
R910	ERJ6GEYJ223V	1/10W 22K	1	
R912	ERJ6GEYJ102Z	1/10W 1K	1	
R914	ERJ6GEYJ181V	1/19W 180	1	
R915	ERJ6GEYJ101V	1/10W 100	1	
R916	ERJ6GEYJ181V	1/19W 180	1	
R917	ERJ6GEYJ101V	1/10W 100	1	
R918-21	ERJ6GEYJ102Z	1/10W 1K	4	
R924,25	ERJ6GEYJ101V	1/10W 100	2	
R928	ERJ6GEYJ181V	1/19W 180	1	
R929	ERJ6GEYJ101V	1/10W 100	1	
R931	ERJ6GEYJ181V	1/19W 180	1	
R932	ERJ6GEYJ101V	1/10W 100	1	
R971	ERDS2FJ221	1/4W 220	1	
R973,74	ERDS2FJ393	1/4W 39K	2	
RJ1-11	ERJ6GEY0R00	1/10W 0	11	
RJ14,15	ERJ6GEY0R00	1/10W 0	2	
RJ17-21	ERJ6GEY0R00	1/10W 0	5	
RJ23	ERJ6GEY0R00	1/10W 0	1	
RJ31-38	ERJ6GEY0R00	1/10W 0	8	
RJ42,43	ERJ6GEY0R00	1/10W 0	2	
RJ45,46	ERJ6GEY0R00	1/10W 0	2	
RJ48-51	ERJ6GEY0R00	1/10W 0	4	
RJ53-57	ERJ6GEY0R00	1/10W 0	5	
RJ59-67	ERJ6GEY0R00	1/10W 0	9	
RJ69,70	ERJ6GEY0R00	1/10W 0	2	

Ref. No.	Part No.	RemarksPart Name & Description	Pcs	Remarks
S803,04	RSH1A024-U	SW COVER OPEN/CLOSE DET.	2	
S900-11	EVQ21405R	SW PUSH	12	
	RSH1A018-1U	SW MODE(DECK1)	1	
	RSH1A019-2U	SW MECHA.DET.SW	5	
SA1	QZZCFM	HEAD AZIMUTH ADJ.CHECK	1	
SA2	QZZCWAT	TAPE SPEED ADJ.CHECK	1	
SA3	SZZ0L18	FLOIL AK-152	1	
SA4	RZZ0L02	SWAFLUID #56	1	
SA5	RZZ0L05	MOLYCOAT EM-20L	1	
SA6	QZZCRA	BLANK TAPE(NORMAL)	1	
SA7	QZZCRX	BLANK TAPE(CRO2)	1	
SA8	QZZCRZ	BLANK TAPE(METAL)	1	
VR102,03	EVNDXAA00B24	V.R. P.B.GAIN ADJ.	2	
VR803	EVNDXAA00B53	V.R. TAPE SPEED ADJ.	1	
X701	EF0EC8004T4	OSCILLATOR	1	
Z971	EXBF6L306SYV	COMBINATION PART	1	

13. Cabinet Parts Location

Ref. No.	Part No.	RemarksPart Name & Description	Pcs	Remarks
1	RHD30007-S	SCREW	4	RS-HD301 ONLY
1	RHD30073-K	SCREW	4	RS-HD501 ONLY
2	RGK1148-M	SIDE PANEL(L)	1	RS-HD501 ONLY
3	RGK1149-M	SIDE PANEL(R)	1	RS-HD501 ONLY
4	RGK0812-S	SIDE ORNAMENT(L)	1	RS-HD301 ONLY
4	RGK1140-N	SIDE ORNAMENT(L)	1	RS-HD501 ONLY
5	RGK0813-S	SIDE ORNAMENT(R)	1	RS-HD301 ONLY
5	RGK1141-N	SIDE ORNAMENT(R)	1	RS-HD501 ONLY
6	RKM0397C-S	CABINET	1	RS-HD301 ONLY
6	RKM0397A-S	CABINET	1	RS-HD501 ONLY
7	XTBS3+10JFZ1	SCREW	1	
8	RFKGSHD301EN	FRONT PANEL ASS'Y	1	RS-HD301 ONLY
8	RFKGSHD501EN	FRONT PANEL ASS'Y	1	RS-HD501 ONLY
9	RFKRSHD7-N	CASSETTE DOOR	1	
10	RGL0331-Q2	PANEL LIGHT(A)	3	
11	RMB0478	CASSETTE DOOR SPRING	1	
12	RGU1391-S	BUTTON	1	
13	XTBS26+8J	SCREW	7	
14	RKA0076-N2	FOOT	4	
14-1	RKA0083-K	CUSHION	4	
15	XTB3+6G	SCREW	4	

Ref. No.	Part No.	RemarksPart Name & Description	Pcs	Remarks
16	XTBS3+8JFZ1	SCREW	6	
17	XTB3+12JFZ	SCREW	4	
18	RHD30069	SCREW	2	
19	XTW2+6S	SCREW	2	
20	REX0949	SYSTEMCONNECTORASS'Y(19P)	1	

14. Mechanism Parts Location

Ref. No.	Part No.	RemarksPart Name & Description	Pcs	Remarks
206	RFKRSTR979	HEAD BLOCK ASS'Y	1	
206-1	RHD17015	AZIMUTH SCREW	2	
206-2	RMB0352-1	SPRING	1	
206-3	RMQ0360A	CONNECTOR HOLDER	1	
207	RDV108ZA	BELT	1	
208	RDK0019A-1J	MAIN GEAR	1	
220	RXG0036	REEL TABLE GEAR	2	
221	RXL0106	IDLE GEAR	1	
222	RXP0052	PINCH ROLLER(L) ASS'Y	1	
222-1	RMB0259	SPRING	1	
223	RXP0053	PINCH ROLLER(R) ASS'Y	1	
223-1	RMB0260	SPRING	1	
224	RDG0206A-1	GEAR	1	
225	RDG0209A	GEAR	1	

Ref. No.	Part No.	RemarksPart Name & Description	Pcs	Remarks
226	REM0036-1	CAPSTAN MOTOR ASS'Y	1	
227	REM0043	REEL MOTOR ASS'Y	1	
228	RHD26013	SCREW	4	
229	RMQ0537	DRIVE GEAR	1	
231	RXG0037	GEAR ASS'Y	1	
232	RMQ0536	DRIVE RACK	1	
233	RYF0334B-K2	CASSETTE HOLDER	1	
233-1	RMC0310	SPRING	2	
233-2	RMB0397	SPRING	1	
236	XTW26+6L	SCREW	2	
239	XTW2+6S	SCREW	2	
240	RXR0018	REEL TABLE	2	
241	XTW2+5L	SCREW	2	
242	XTW26+12S	SCREW	2	

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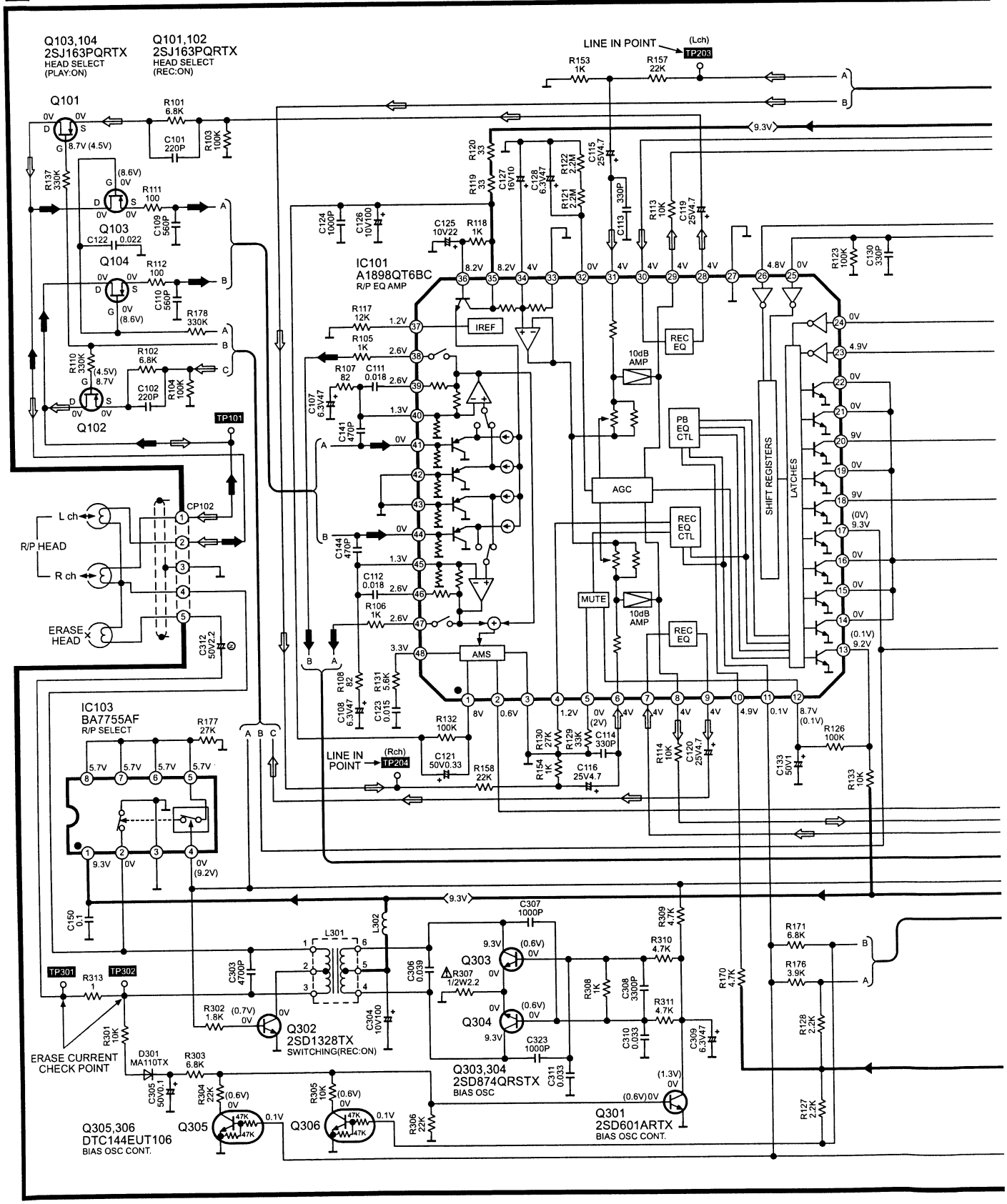
SCHEMATIC DIAGRAM-1

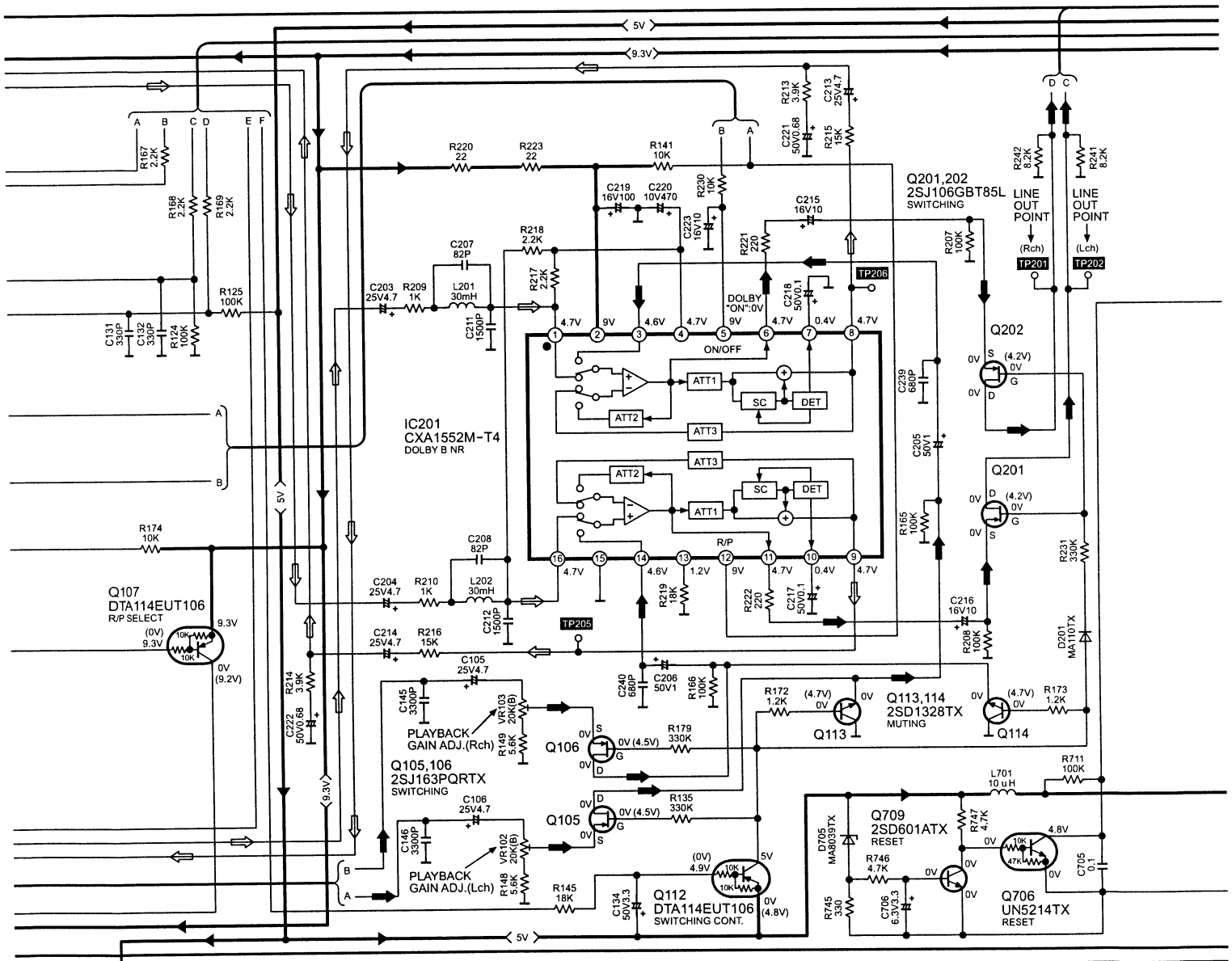
A MAIN CIRCUIT

:POSITIVE VOLTAGE LINE :RECORDING SIGNAL LINE :PLAYBACK SIGNAL LINE

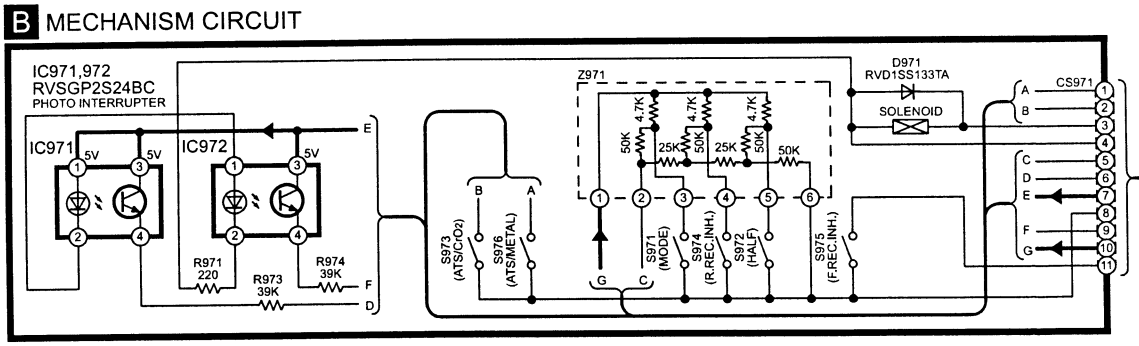


SCHEMATIC DIAGRAM-2

:POSITIVE VOLTAGE LINE :RECORDING SIGNAL LINE :PLAYBACK SIGNAL LINE



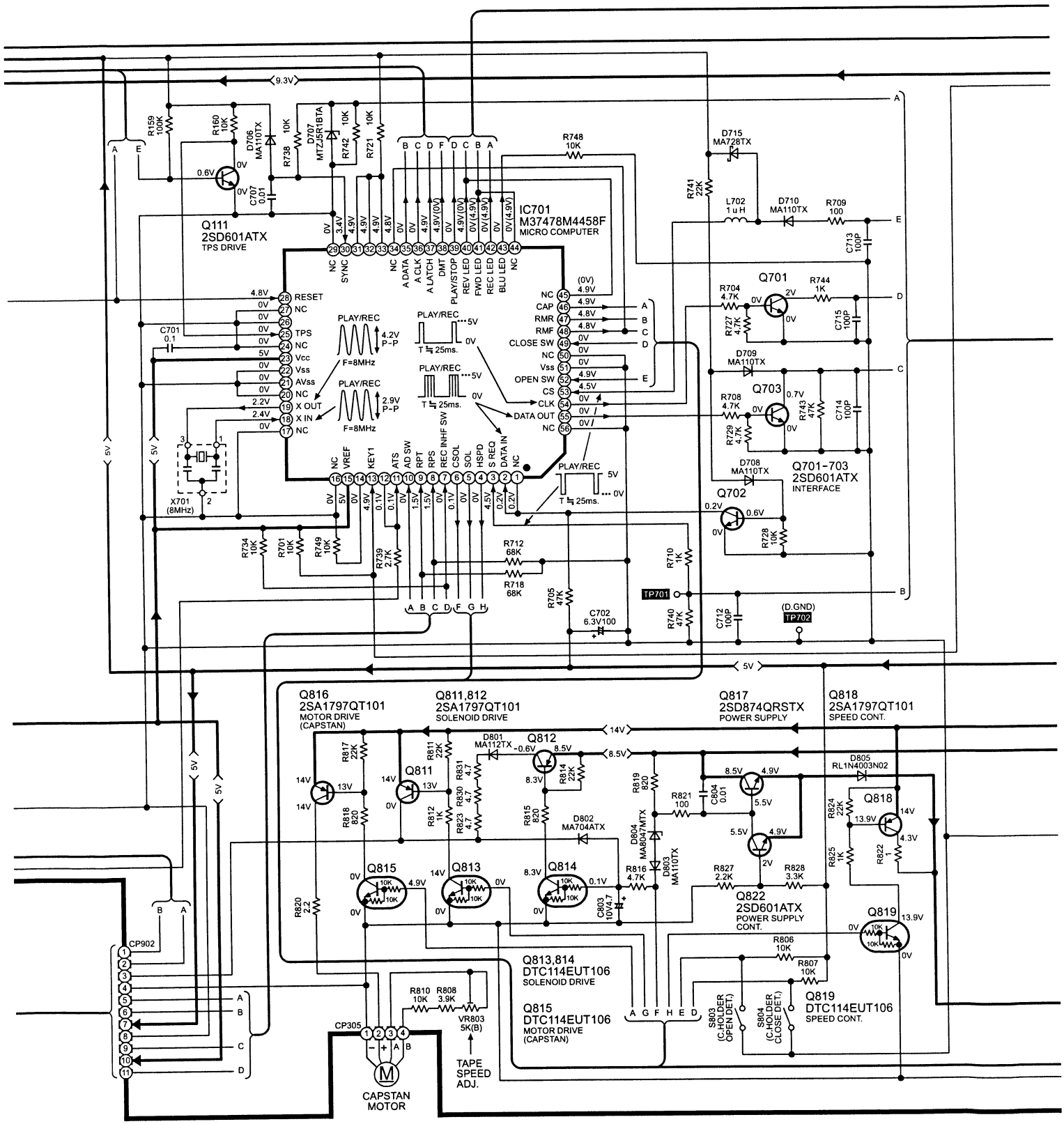
B MECHANISM CIRCUIT



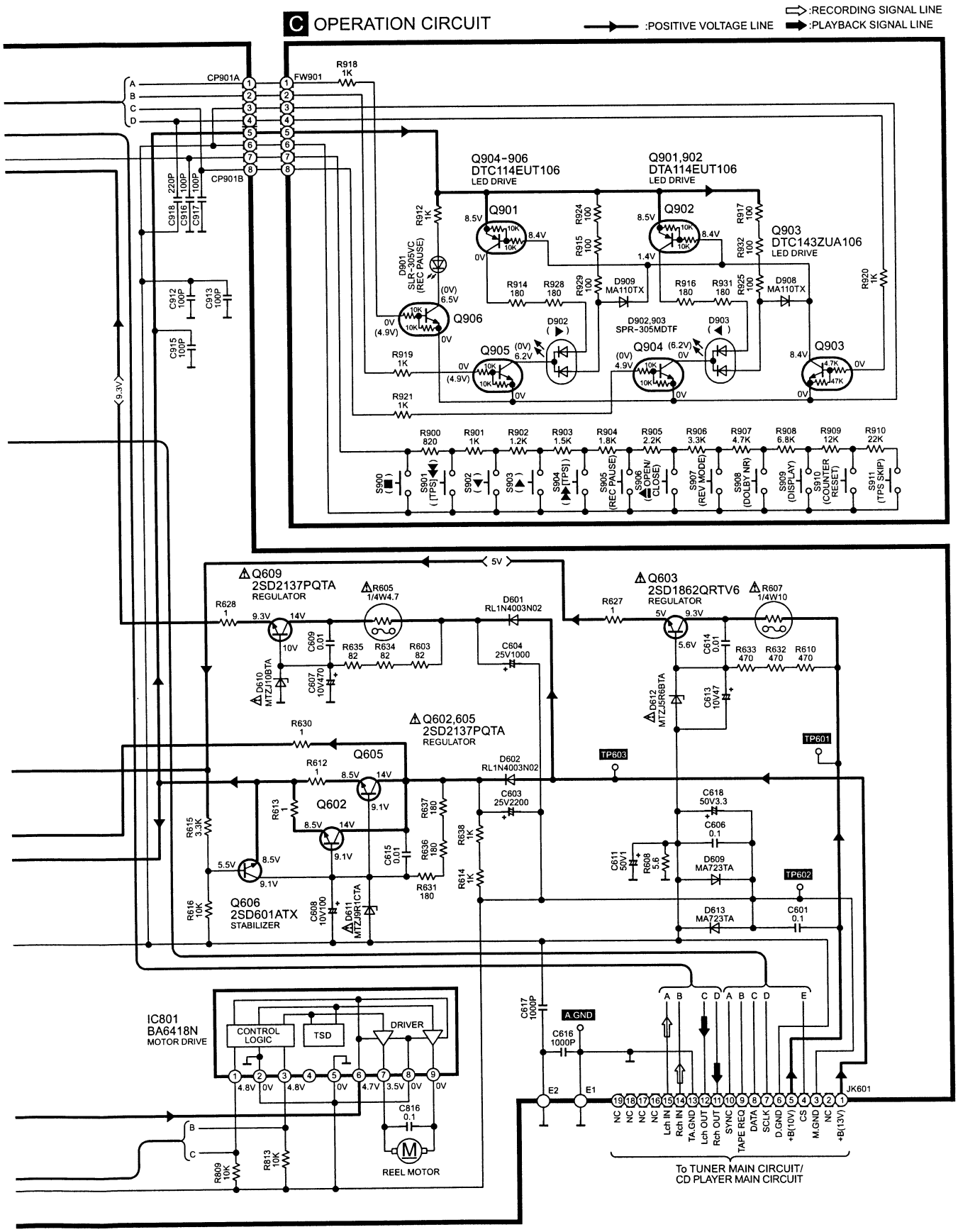
SCHEMATIC DIAGRAM-3

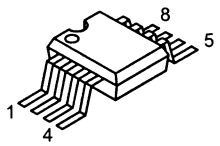
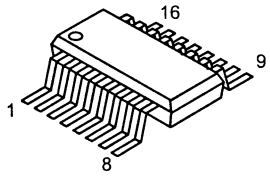
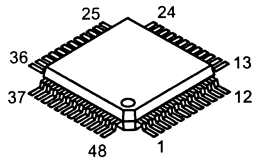
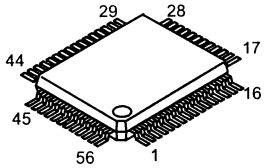
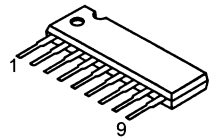
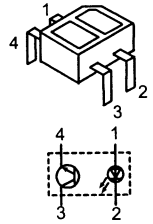
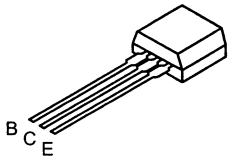
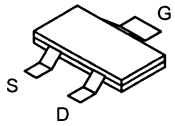
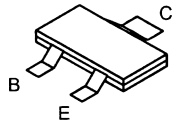
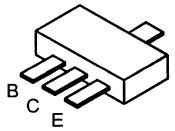
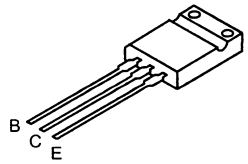
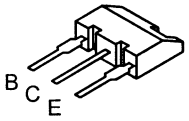
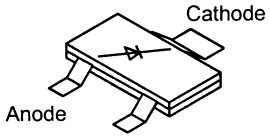
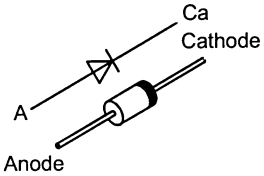
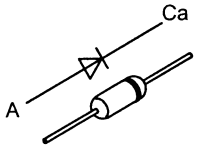
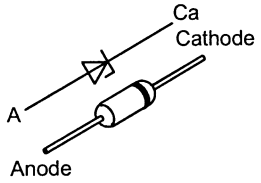
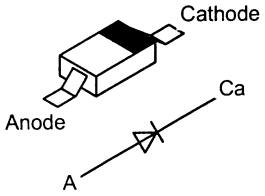
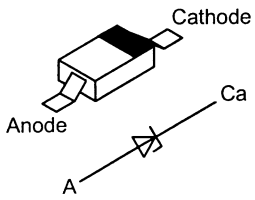
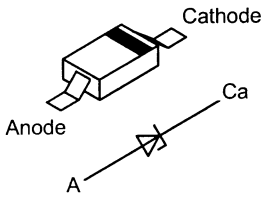
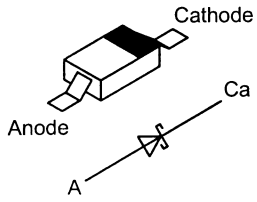
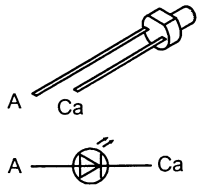
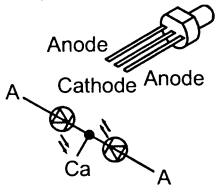
A MAIN CIRCUIT

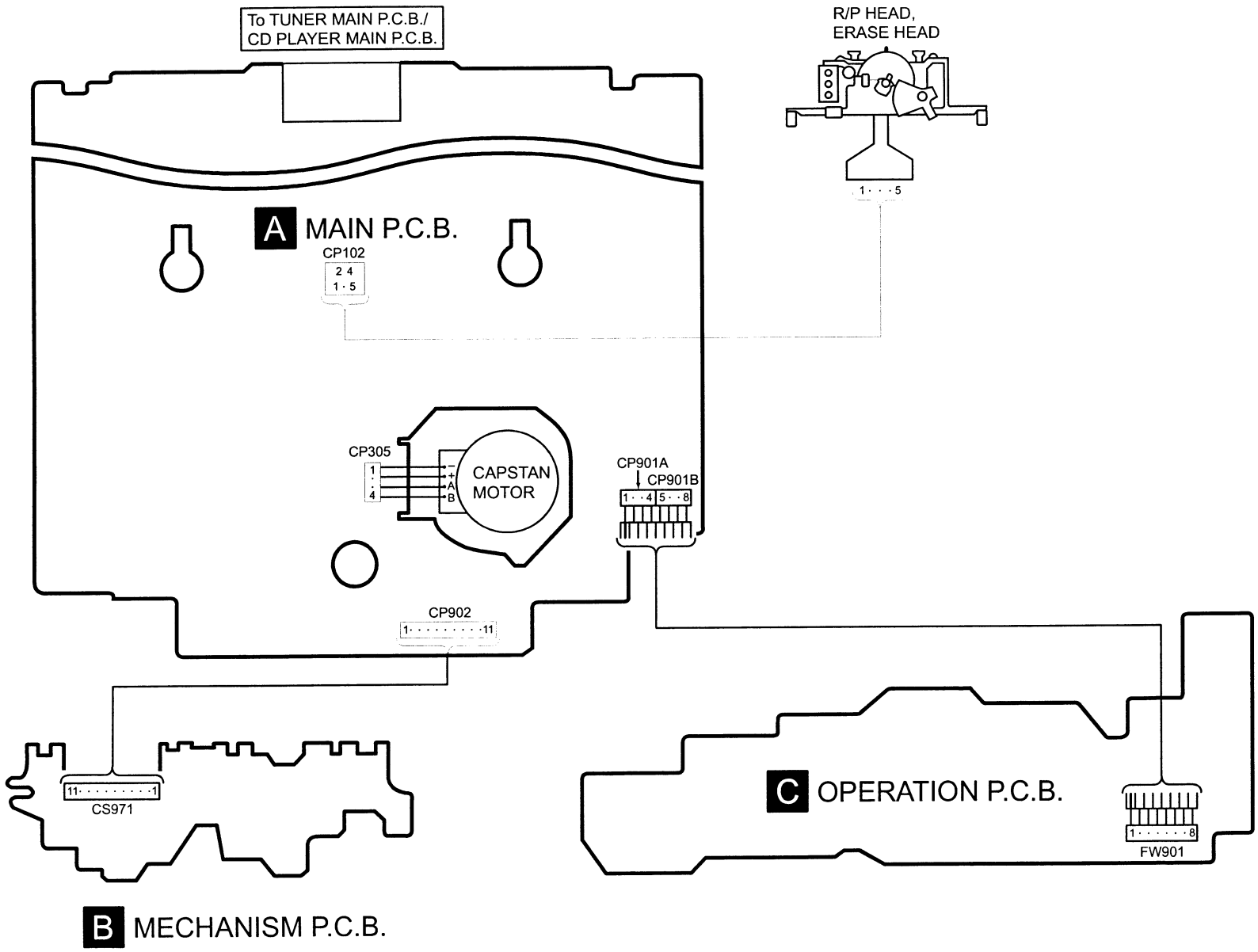
:POSITIVE VOLTAGE LINE

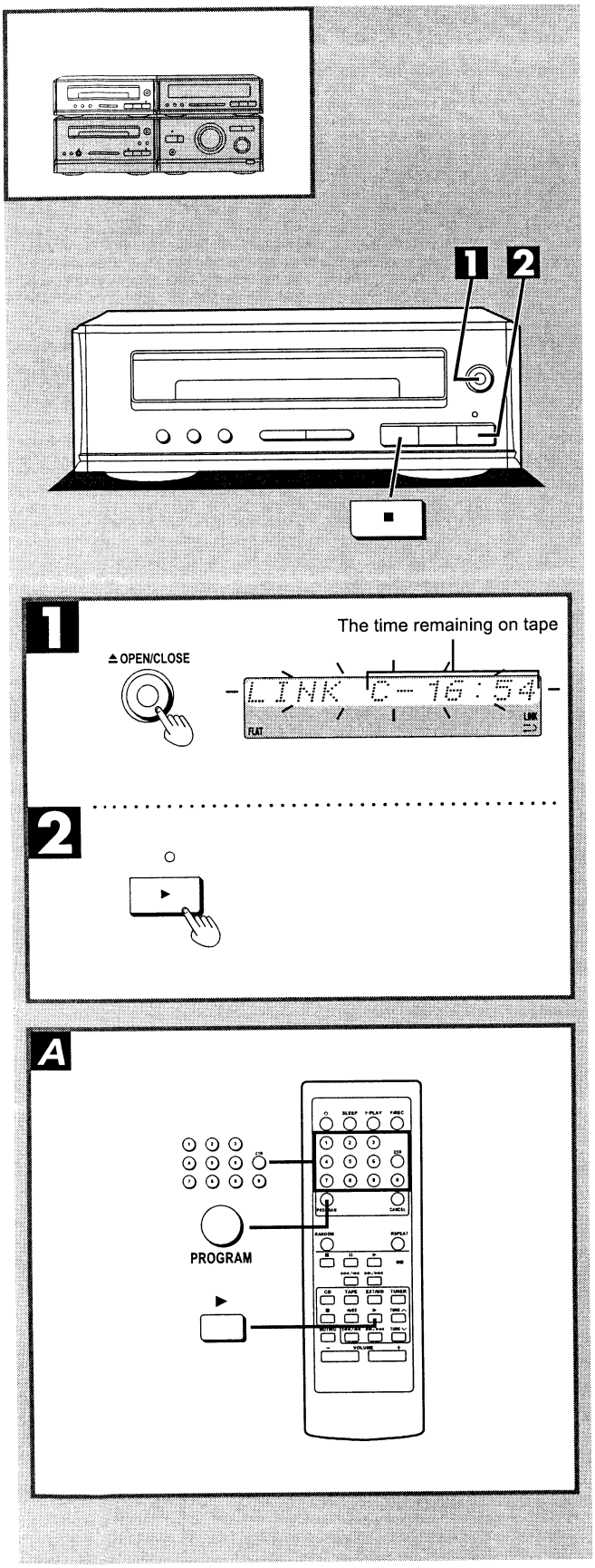


SCHEMATIC DIAGRAM-4



BA7755AF 	CXA1552M-T4 	A1898QT6BC 	M37478M4458F 	BA6418N 	RVSGP2S24BC 
 DTA114EUT106 DTC114EUT106 DTC143ZUA106 DTC144EUT106		2SJ106GBT85L 2SJ163PQRTX 	2SD1328TX 2SD601ATX 2SD601ARTX UN5214TX 	2SA1797QT101 2SD874QRSTX 	2SD2137PQTA 
2SD1862QRTV6 	MA704ATX 	RL1N4003N02 	RVD1SS133TA MA723TA 	 MTZJ10BTA MTZJ5R1BTA MTZJ5R6BTA MTZJ9R1CTA	
MA110TX MA112TX 	MA8039TX 	MA8047MTX 	MA728TX 	SLR-305VC 	SPR-305MDTF 


To TUNER MAIN P.C.B./
CD PLAYER MAIN P.C.B.
R/P HEAD,
ERASE HEAD
1 · · · 5
A MAIN P.C.B.
CP102
2 4
1 · 5
CP305
1
·
·
4
CAPSTAN
MOTOR
CP901A
CP901B
1 · · 4
5 · · 8
CP902
1 · · · · · · · · · 11
11 · · · · · · · · · 1
CS971
C OPERATION P.C.B.
1 · · · · · · 8
FW901
B MECHANISM P.C.B.



Recording onto left over space on tapes (LINK)

After the edit-recording of a CD has finished, you can subsequently edit-record other CD(s) on the remaining blank portion of the tape.

You can link up another CD when "LINK" flashes after editing a CD.

1 Press [≜ OPEN/CLOSE] to replace the CD.

Press [≜ OPEN/CLOSE] to close the tray.

2 Press [▶].

Linking will start.
As long as there is space on the tape to record, when recording has finished, the cassette deck will put linking on standby.

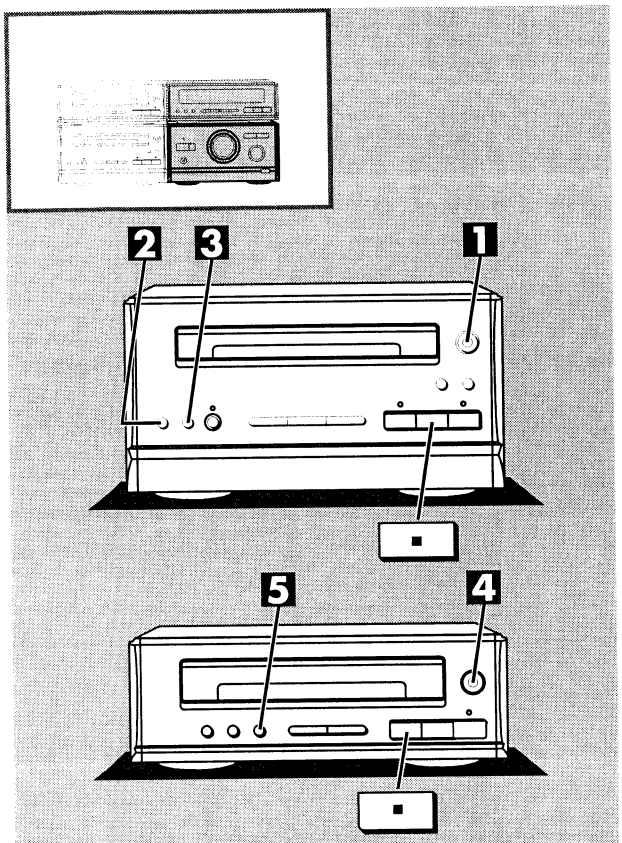
To continue linking tracks:
Repeat steps 1 and 2.

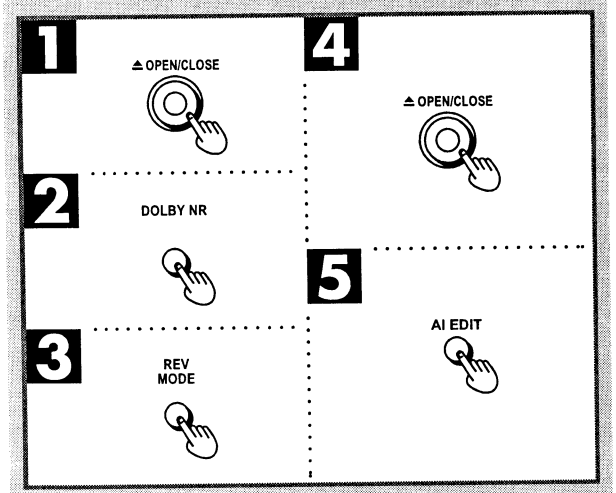
To cancel the LINK function:
Press [■] on the CD player.
"EDIT OUT" will scroll across the display from right to left.

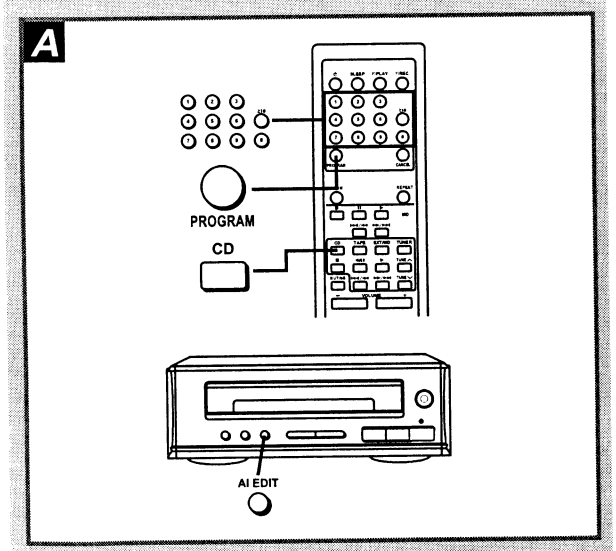
Note
Linking cannot be done if the time remaining on the cassette is too short to fit any of the songs on the loaded CD.

Linking programmed tracks A

① Perform step 1 above, and then press [PROGRAM] on the remote control.
② Select the track number from the remote control with the numeric button(s).
③ Repeat step ② until you have programmed all tracks (max. 24 tracks).
④ Press [▶]. Linking will begin.







One-touch editing (AI EDIT)

The deck measures the tape and calculates which tracks go on which side of the tape so no tracks get cut off at the end of either side.
Recording starts from the first track on the disc and continues through to the last track.

For your reference:
It is better to use a tape slightly longer than the CD playing time when recording.

One-touch editing automatically positions the leader tape.

1 Press [≜ OPEN/CLOSE] and insert the tape.
Load with the exposed side facing the cassette holder.
Insert until it touches the back of the compartment.
Press [≜ OPEN/CLOSE] once again to close the holder.

2 To record in Dolby B NR:
Press [DOLBY NR] so "DD NR" is displayed.

3 Press [REV MODE] to select the reverse mode.
⇄: One side will record.
⇄ ⊂⇄⊃: Both sides will record (forward side→reverse side).

4 Insert a CD in the tray.

5 Press [AI EDIT] on the CD player.
The deck will rewind the tape and recording will start. In the meantime, "AI EDIT TAPE" will scroll across the display from right to left. It will take a moment for recording to actually begin.
If you select "⊂⇄⊃" in step 3, the direction will automatically change to "⇄⊃" when you press [AI EDIT].

To stop one-touch editing:
Press [■] on the cassette deck.
The CD player will also stop.
"EDIT OUT" will scroll across the display from right to left.

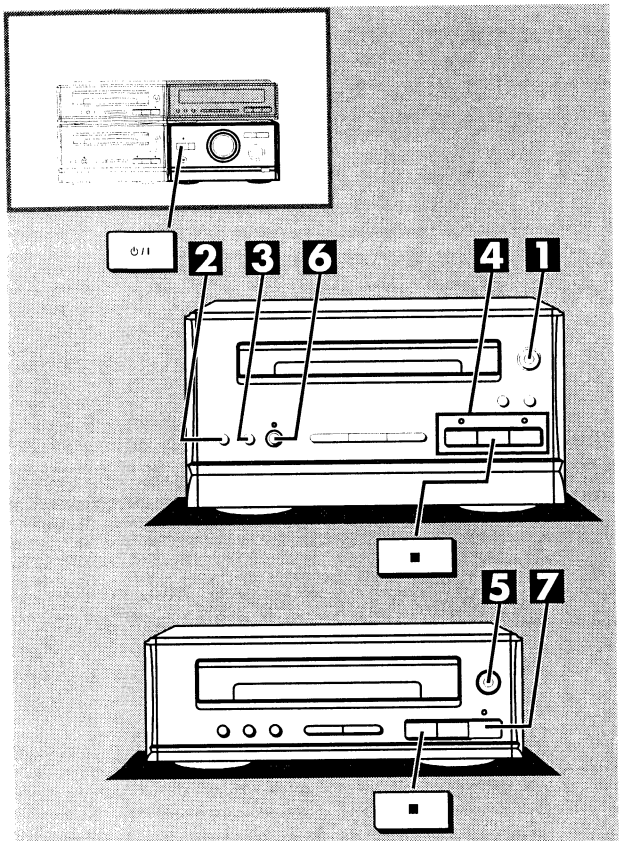
When tracks are allotted to both sides:
When the tracks alloted to side A finish playing, the deck records to the end of the side to complete calculation.

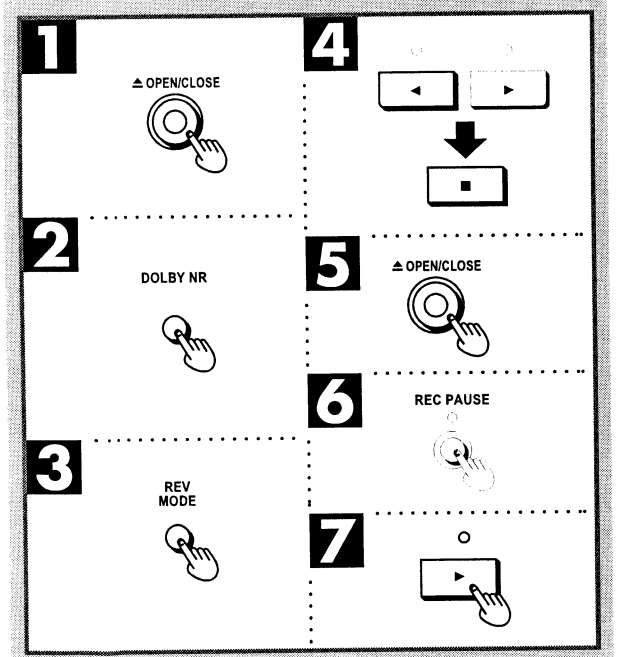
After edit-recording has finished:
The tape deck automatically puts recording on standby. In the meantime, if "LINK" flashes on the display, there is enough space on the tape that you can continue recording from another CD.
If you want to link the tracks, do not press [■] on the CD player.

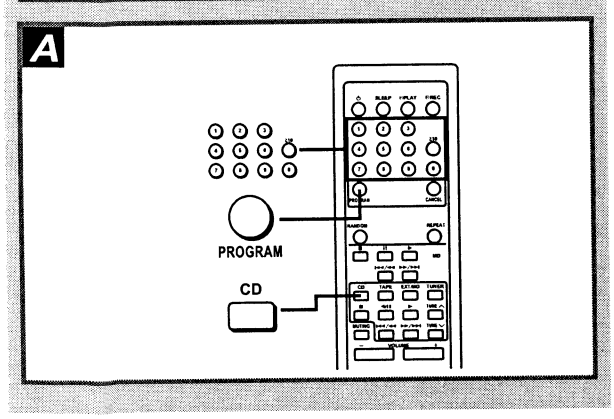
To edit-record programmed tracks A

① Perform steps 1 – 4 above, and then press [CD] and [PROGRAM] on the remote control.
② Select the track number from the remote control with the numeric buttons.
③ Repeat step ② until you have programmed all tracks (max. 24 tracks).
④ Press [AI EDIT] on the CD player. Recording will begin.

■ Recording from Compact Discs







Normal recording

Preparation:
- Press [⏻/I] to turn the unit on.
- Advance the tape to a point from where recording can start immediately.

1 Press [≜ OPEN/CLOSE] and insert the tape.
Load with the exposed side facing the cassette holder.
Insert until it touches the back of the compartment.
Press [≜ OPEN/CLOSE] once again to close the holder.

2 To record in Dolby B NR:
Press [DOLBY NR] so "▯▯NR" is displayed.

3 Press [REV MODE] to select the reverse mode.
⇄: One side will record.
⇄ ⊂⇄⊃: Both sides will record (forward side→reverse side).

4 Set the tape travel direction.
To change the tape travel direction, first press [◀] or [▶] on the cassette deck, then press [■].
▶: Recording from the forward side
◀: Recording from the reverse side

5 Insert a CD in the tray.

6 Press [REC PAUSE] to put the cassette deck into the recording standby mode.
REC PAUSE indicator will light.
If you select "⊂⇄⊃" in step 3, the direction will automatically change to "⇄" when you press [REC PAUSE].

7 Press [▶] on the CD player.
Recording will automatically start corresponding to the tape travel direction.

Approximately 4 seconds after the CD finishes playing, the cassette deck will automatically put recording on standby.

To stop recording:

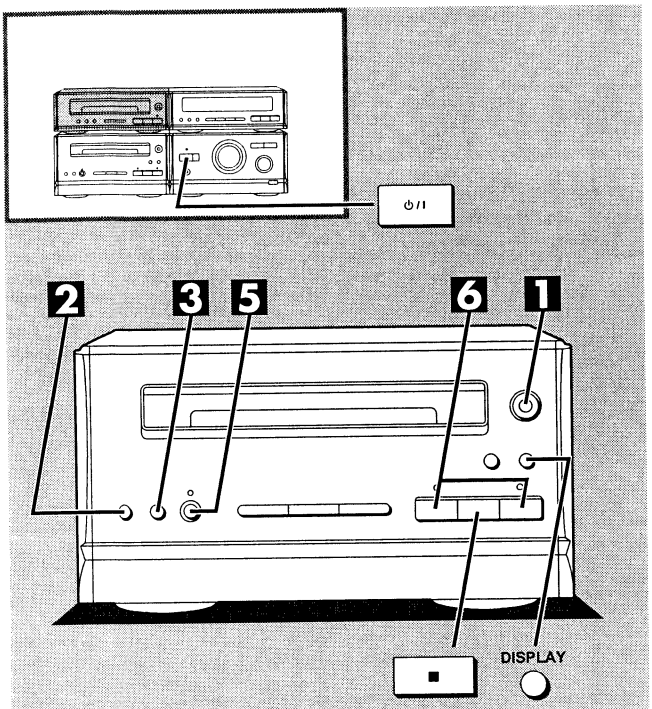
●To add a 4 second silent interval before stopping
Press [■] on the CD player.
The cassette deck will go into the recording standby state.

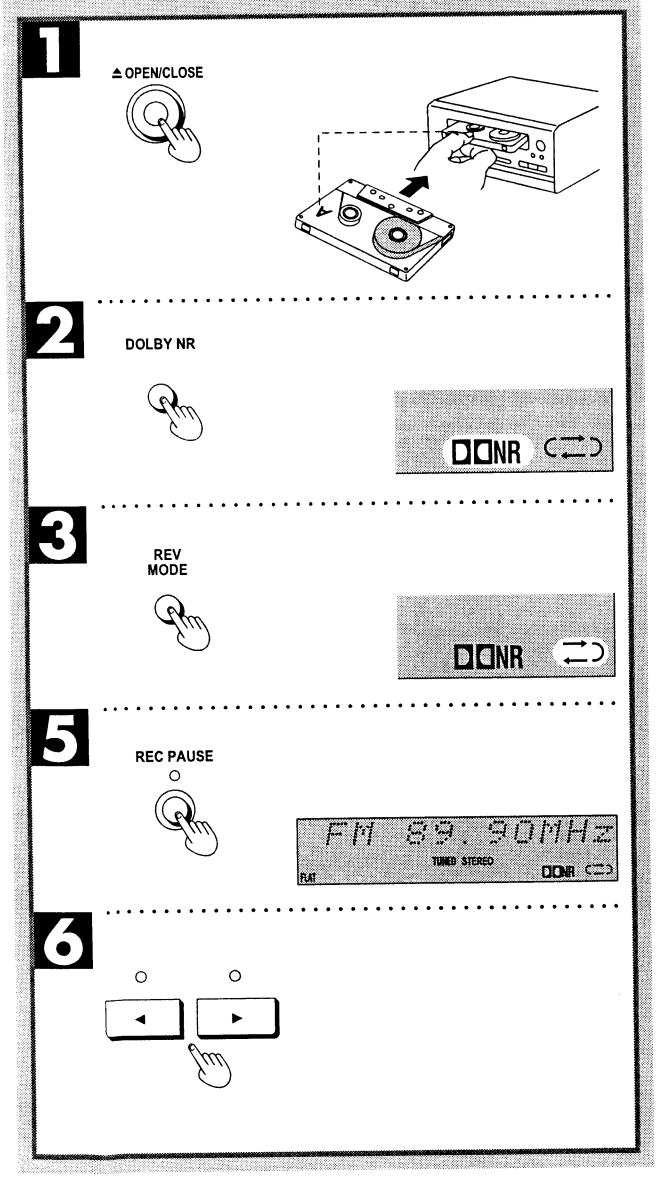
●To stop recording without a silent interval
Press [■] on the cassette deck.
The CD player will not stop.

To record programmed tracks A

① Perform steps 1 – 5 above, and then press [CD] on the remote control.
② Press [PROGRAM] on the remote control.
③ Select the track number from the remote control with the numeric button(s).
④ Repeat step ③ until you have programmed all tracks (max. 24 tracks).
⑤ Perform steps 6 and 7 above.

■ Recording from Radio Broadcasts





Preparation:

- Press [⏻/I] to turn the unit on.
- Advance the tape to a point from where recording can start immediately.

1 Press [≜ OPEN/CLOSE] and insert the tape.

Load with the exposed side facing the cassette holder.
Insert until it touches the back of the compartment.
Press [≜ OPEN/CLOSE] once again to close the holder.

2 To record in Dolby B NR:
Press [DOLBY NR] so "DOLBY NR" is diplayed.

3 Press [REV MODE] to select the reverse mode.

⇄: One side will record.
⇄ ⊂⇄⊃: Both sides will record (forward side→reverse side).

4 Tune in the desired station.

5 Press [REC PAUSE] to put the cassette deck into the recording standby mode.

REC PAUSE indicator will light.
The playback indicators above [◀] or [▶] will start flashing.
If you select "⊂⇄⊃" in step **3**, the direction will automatically change to "⇄" when you press [REC PAUSE].

6 Press [◀] or [▶] to start recording.

▶: To begin recording from the forward side.
◀: To begin recording from the reverse side.

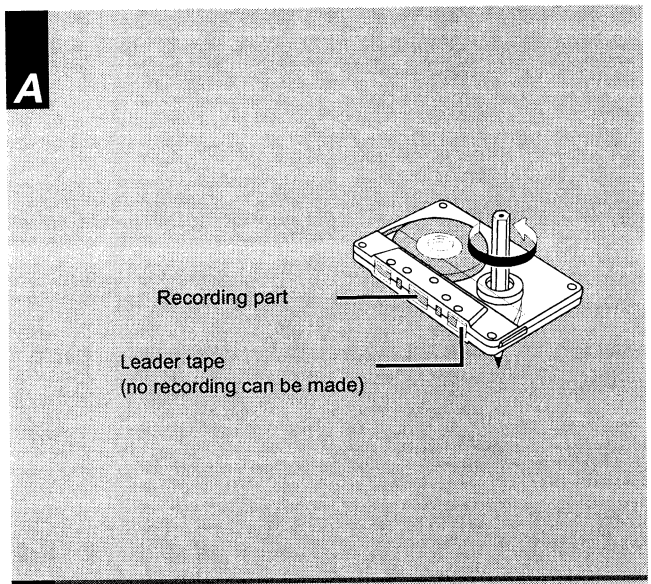
To stop recording:
Press [■].

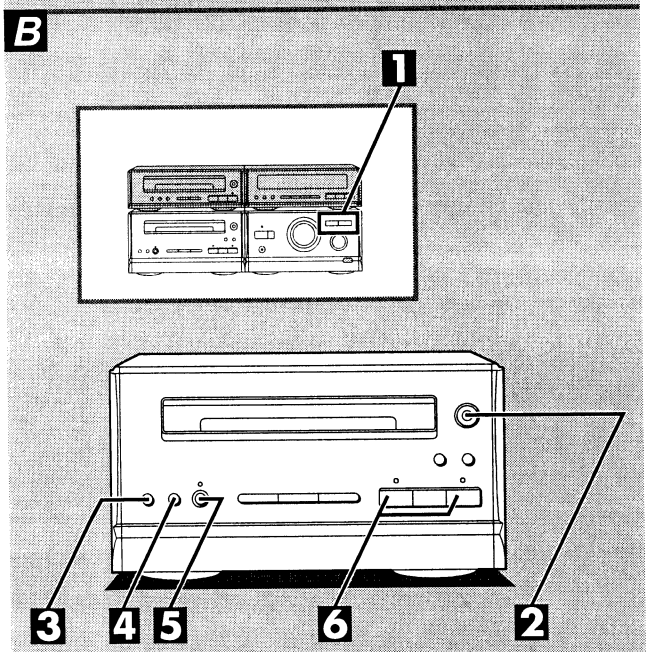
To display the tape counter while recording:
Press [DISPLAY] .
The tape counter will be displayed for approximately 5 seconds.
This is a useful way for knowing what point of the tape you're at.

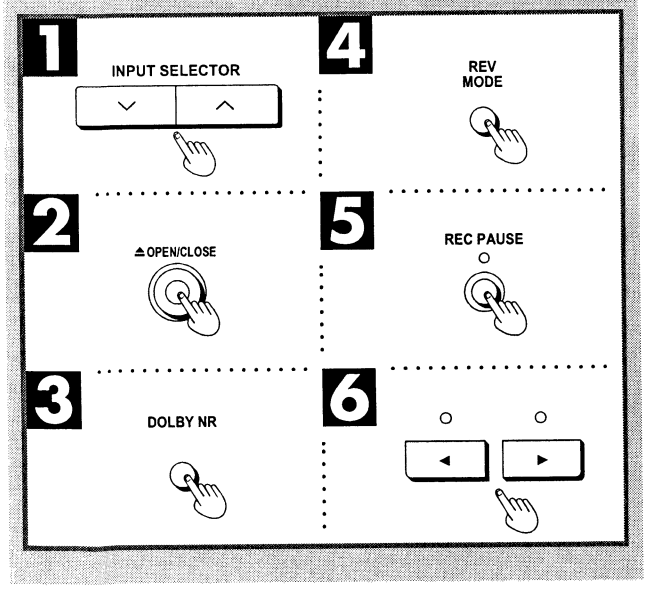
To cut an unnecessary part while recording:

1. Press [REC PAUSE].
   The cassette deck will go into the recording standby state.
2. To resume recording, press [◀] or [▶], whichever playback indicator is flashing.

■ Before Recording







Types of tapes which can be recorded correctly

The unit automatically identifies the type of tape.

Normal position/TYPE I	○
High position/TYPE II	○
Metal position/TYPE IV	○

How to advance the leader tape

A

Wind the leader tape forward so that recording can start as soon as you press the button. This is not necessary if one-touch editing from CDs.

About Dolby noise-reduction system

The Dolby noise-reduction system is designed to effectively reduce the annoying high-frequency "hissing" noise typical of cassette tapes. During recording, the system functions to increase the high-frequency sound level, the sound, and then, during playback, that same portion is weakened to bring it back to the previous level. This unit is equipped with the Dolby B NR-type.

Dolby B-type noise reduction:
Noise is reduced to about one-third.
Use this system when playing back tapes recorded by the Dolby-B noise-reduction system, such as prerecorded music tapes, etc.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ◻◻ are trademarks of Dolby Laboratories Licensing Corporation.

Volume and sound quality in recording

Changes to volume or sound quality are not recorded.

To erase recorded sounds

B

1 Press [INPUT SELECTOR (∨ or ∧)] on the amplifier to select "TAPE".

2 Insert the recorded tape into deck.

3 Press [DOLBY NR] so that the Dolby NR indicator ("◻◻NR") goes off.

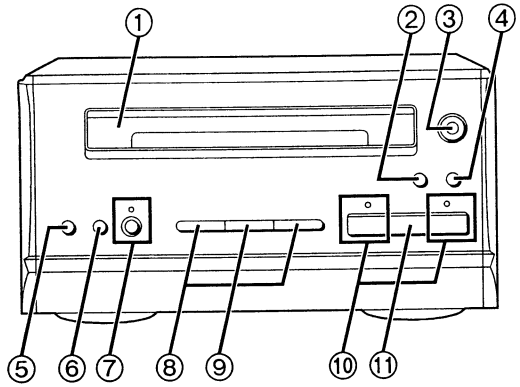
4 Press [REV MODE] to select reverse mode.

5 Press [REC PAUSE].
REC PAUSE indicator will light.

6 Press [◀] or [▶], whichever side you want to erase.

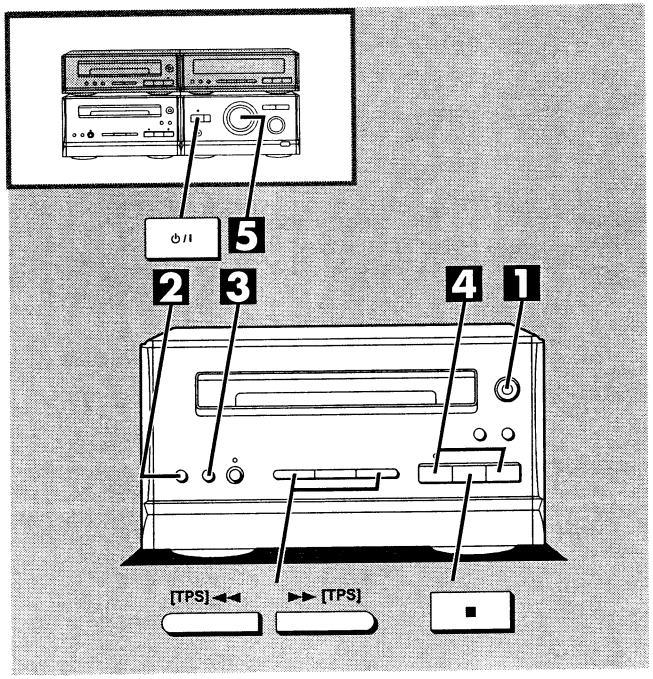
Your attention is drawn to the fact that recording pre-recorded tapes or discs or other published or broadcast material may infringe copyright laws.

■ Front Panel Controls



① **Cassette holder**
② **Counter reset button (COUNTER RESET)**
③ **Cassette holder open/close button (▲ OPEN/CLOSE)**
④ **Display button (DISPLAY)**
⑤ **Dolby noise reduction button (DOLBY NR)**
⑥ **Reverse mode select button (REV MODE)**
⑦ **Record pause button and indicator (REC PAUSE)**
⑧ **Fast forward/rewind/Tape Program Sensor buttons ([TPS] ◄◄, ►►[TPS])**
⑨ **TPS skip button (TPS SKIP)**
⑩ **Playback buttons and indicators (◄, ►)**
The color of the indicators depends on the operation taking place.
If stopped, fast forwarding or rewinding: orange
If playing, recording, or carrying out TPS: green
⑪ **Stop button (■)**

■ Listening to Tapes



Types of tapes which can be played correctly:
The unit automatically identifies the type of tape.

Normal position/TYPE I	○
High position/TYPE II	○
Metal position/TYPE IV	○

Preparation: Press [⏻/I] to turn the unit on.

1 Press [▲ OPEN/CLOSE] and insert the tape.
Load with the exposed side facing the cassette holder.
Insert until it touches the back of the compartment.
Press [▲ OPEN/CLOSE] once again to close the cassette holder.

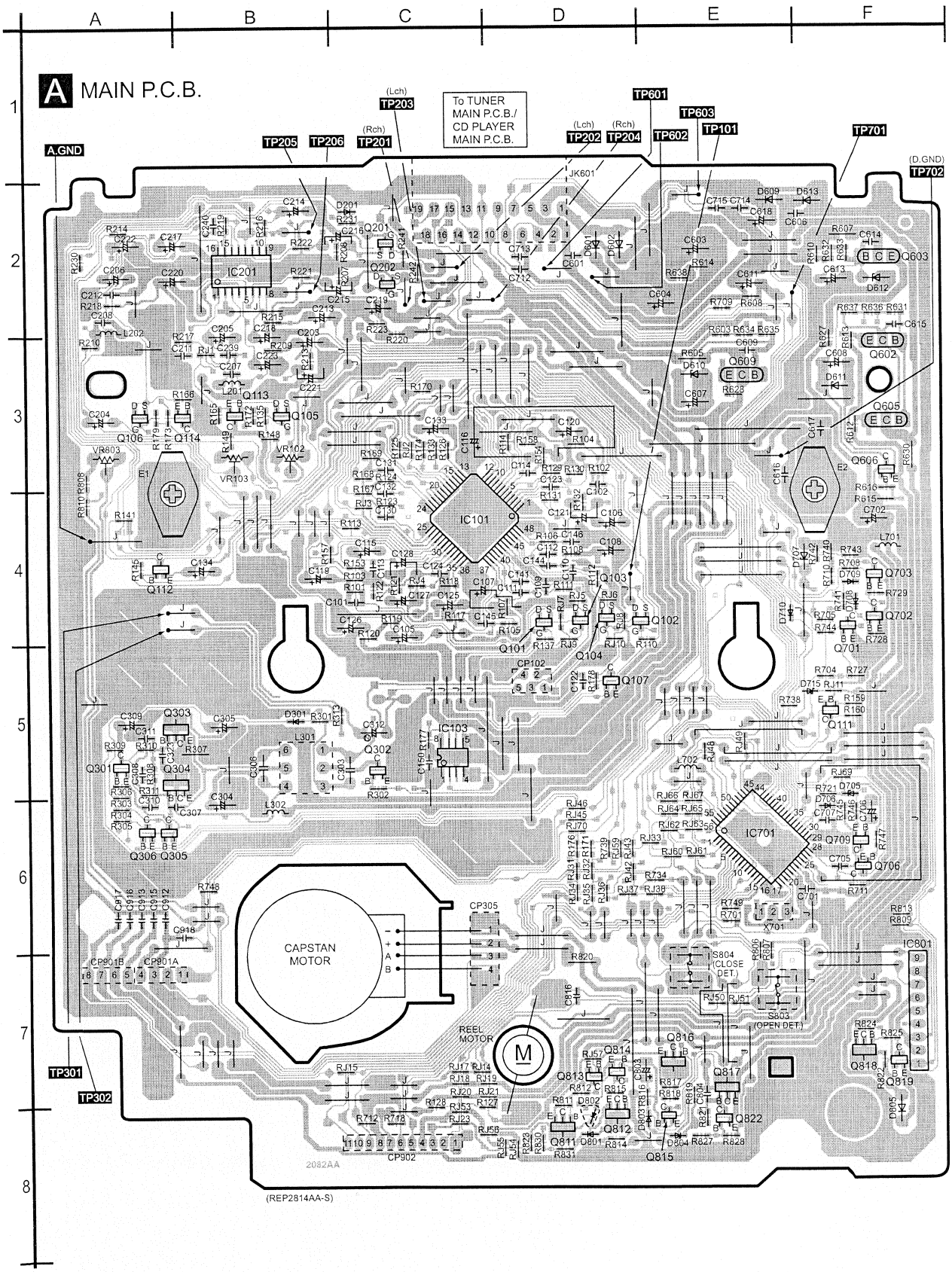
2 Press [DOLBY NR] to select Dolby NR on or off.
"□□NR" appears when the Dolby NR system is on.

3 Press [REV MODE] to select the reverse mode.
Each time you press [REV MODE], one of the indicators will appear.
⇄: The deck plays one side only.
⇄⊃: The deck plays both sides.
⊂⇄⊃: The deck plays both sides 8 times.

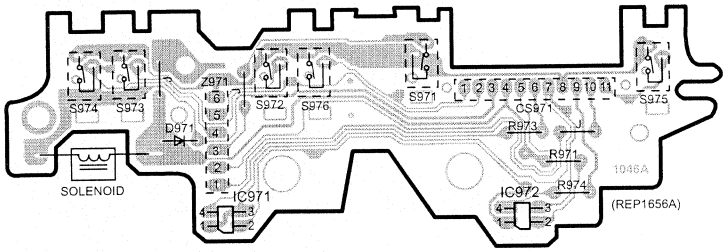
4 Press [◄] or [►].
Play begins and the lamp changes to green.
►: The forward side will play.
◄: The reverse side will play.

5 Adjust the volume.

To stop tape playback:
Press [■].


A MAIN P.C.B.
To TUNER MAIN P.C.B./ CD PLAYER MAIN P.C.B.
A.GND
(D.GND)
TP702
TP205
TP206
TP201
(Rch)
TP203
(Lch)
TP202
(Rch)
TP204
TP602
TP601
TP603
TP101
TP701
JK601
IC201
IC101
IC103
IC701
IC801
Q101
Q102
Q103
Q104
Q105
Q106
Q107
Q111
Q112
Q113
Q114
Q201
Q202
Q301
Q302
Q303
Q304
Q305
Q306
Q601
Q602
Q603
Q605
Q606
Q609
Q701
Q702
Q703
Q706
Q709
Q801
Q802
Q803
Q804
Q811
Q812
Q813
Q814
Q815
Q816
Q817
Q818
Q819
Q822
CAPSTAN MOTOR
REEL MOTOR
M
S804 (CLOSE DET.)
S803 (OPEN DET.)
CP305
CP901B
CP901A
CP902
TP301
TP302
2082AA
(REP2814AA-S)

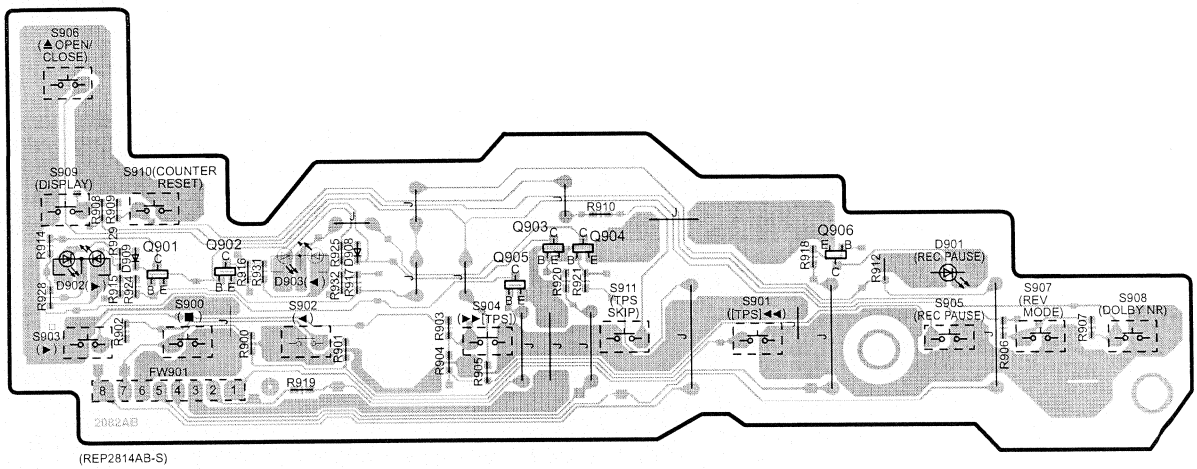
B MECHANISM P.C.B.



■ ELECTRICAL PARTS LOCATION

Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.
A MAIN P.C.B.															
IC101	4C	D612	2F	R106	4D	R207	2C	R638	2E	RJ1	3B	C101	4C	C222	2A
IC103	5C	D613	2F	R107	4D	R208	2C	R701	6E	RJ2	3C	C102	3D	C223	3B
IC201	2B	D705	5F	R108	4D	R209	3B	R704	5F	RJ3	4C	C105	4C	C239	3B
IC701	6E	D706	6F	R110	4E	R210	3A	R705	4F	RJ4	4C	C106	4D	C240	2B
IC801	7F	D707	4F	R111	4D	R213	3B	R708	4F	RJ5	4D	C107	4D	C303	5C
Q101	4D	D708	4F	R112	4D	R214	2A	R709	2E	RJ6	4D	C108	4D	C304	6B
Q102	4D	D709	4F	R113	4C	R215	2B	R710	4F	RJ7	4D	C109	4D	C305	5B
Q103	4D	D710	4E	R114	3D	R216	2B	R711	6F	RJ8	4D	C110	4D	C306	5B
Q104	4D	D715	5F	R117	4C	R217	3B	R712	8C	RJ9	4D	C111	4D	C307	6A
Q105	3B	D801	8D	R118	4C	R218	2A	R718	8C	RJ10	4D	C112	4D	C308	5A
Q106	3A	D802	8D	R119	4C	R219	2B	R721	5F	RJ11	5F	C113	4C	C309	5A
Q107	5D	D803	8D	R120	4C	R220	2C	R727	5F	RJ14	7C	C114	3D	C310	6A
Q111	5F	D804	8E	R121	4C	R221	2B	R728	4F	RJ15	7C	C115	4C	C311	5A
Q112	4A	D805	8F	R122	4C	R222	2B	R729	4F	RJ17	7C	C116	3D	C312	5C
Q113	3B	VR102	3B	R123	4C	R223	2C	R734	6E	RJ18	7C	C119	4B	C323	5A
Q114	3B	VR103	3B	R124	3C	R230	2A	R738	5E	RJ19	7C	C120	3D	C601	2D
Q201	2C	VR803	3A	R125	3C	R231	2C	R739	6D	RJ20	7C	C121	4D	C603	2E
Q202	2C	L201	3B	R126	3C	R241	2C	R740	4F	RJ21	7C	C122	5D	C604	2E
Q301	5A	L202	2A	R127	7C	R242	2C	R741	4F	RJ23	8C	C123	3D	C606	2F
Q302	5C	L301	5B	R128	7C	R301	5B	R742	4F	RJ31	6D	C124	4C	C607	3E
Q303	5A	L302	6B	R129	3D	R302	5C	R743	4F	RJ32	6D	C125	4C	C608	3F
Q304	5A	L701	4F	R130	3D	R303	5A	R744	4F	RJ33	6E	C126	4C	C609	3E
Q305	6A	L702	5E	R131	4D	R304	6A	R745	6F	RJ34	6D	C127	4C	C611	2E
Q306	6A	X701	6E	R132	4D	R305	6A	R746	6F	RJ35	6D	C128	4C	C613	2F
Q602	3F	S803	7E	R133	3C	R306	5A	R747	6F	RJ36	6D	C130	4C	C614	2F
Q603	2F	S804	7E	R135	3B	R307	5B	R748	6B	RJ37	6D	C131	3C	C615	2F
Q605	3F	CP102	5D	R137	4D	R308	5A	R749	6E	RJ38	6E	C132	4C	C616	3E
Q606	3F	CP305	6C	R141	4A	R309	5A	R806	6E	RJ42	6D	C133	3C	C617	3F
Q609	3E	CP901A	7A	R145	4A	R310	5A	R807	6E	RJ43	6D	C134	4B	C618	2E
Q701	4F	CP901B	7A	R148	3B	R311	5A	R808	3A	RJ45	6D	C141	4D	C701	6F
Q702	4F	CP902	8C	R149	3B	R313	5C	R809	6F	RJ46	6D	C144	4D	C702	4F
Q703	4F	JK601	2D	R153	4C	R603	2E	R810	4A	RJ48	5E	C145	4C	C705	6F
Q706	6F	TP101	4D	R154	3D	R605	3E	R811	7D	RJ49	5E	C146	4D	C706	6F
Q709	6F	TP201	2C	R157	4B	R607	2F	R812	7D	RJ50	7E	C150	5C	C707	6F
Q811	8D	TP202	2C	R158	3D	R608	2E	R813	6F	RJ51	7E	C203	3B	C712	2D
Q812	8D	TP203	2C	R159	5F	R610	2F	R814	8D	RJ53	8C	C204	3A	C713	2D
Q813	7D	TP204	2D	R160	5F	R612	3F	R815	7D	RJ54	8D	C205	2B	C714	2E
Q814	7D	TP205	2B	R165	3B	R613	3F	R816	7D	RJ55	8D	C206	2A	C715	2E
Q815	8E	TP206	2B	R166	3B	R614	2E	R817	7E	RJ56	8C	C207	3B	C803	7D
Q816	7E	TP301	4A	R167	4C	R615	4F	R818	7E	RJ57	7D	C208	2A	C804	7E
Q817	7E	TP302	4A	R168	3C	R616	3F	R819	7E	RJ59	6D	C211	3B	C816	7D
Q818	7F	TP601	2D	R169	3C	R627	3F	R820	7D	RJ60	6E	C212	2A	C912	6A
Q819	7F	TP602	2D	R170	3C	R628	3E	R821	8E	RJ61	6E	C213	2B	C913	6A
Q822	8E	TP603	2E	R171	6D	R630	3F	R822	7F	RJ62	6E	C214	2B	C915	6A
D201	2C	TP701	2E	R172	3B	R631	2F	R823	8D	RJ63	6E	C215	2C	C916	6A
D301	5B	TP702	3E	R173	3A	R632	2F	R824	7F	RJ64	6E	C216	2C	C917	6A
D601	2D	R101	4C	R174	3C	R633	2F	R825	7F	RJ65	6E	C217	2A	C918	6B
D602	2D	R102	3D	R176	6D	R634	2E	R827	8E	RJ66	6E	C218	2B	E1	3A
D609	2E	R103	4C	R177	5C	R635	2E	R828	8E	RJ67	6E	C219	2C	E2	3F
D610	3E	R104	3D	R178	5D	R636	2F	R830	8D	RJ69	5F	C220	2A		
D611	3F	R105	4D	R179	3A	R637	2F	R831	8D	RJ70	6D	C221	3B		
B MECHANISM P.C.B.															
IC971	2I	D971	2H	S971	2I	S973	2H	S975	2K	CS971	2J	R973	2J		
IC972	2J	Z971	2H	S972	2I	S974	2H	S976	2I	R971	2J	R974	2J		

C OPERATION P.C.B.



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Q901	3A	D902	3A	S903	3A	S910	2A	R904	3C	R912	3E	R920	3C	R932	3B
Q902	3B	D903	3B	S904	3C	S911	3D	R905	3C	R914	3A	R921	3D		
Q903	3C	D908	3B	S905	3E	FW901	3A	R906	3F	R915	3A	R924	3A		
Q904	3D	D909	3A	S906	2A	R900	3B	R907	3F	R916	3B	R925	3B		
Q905	3C	S900	3B	S907	3F	R901	3B	R908	2A	R917	3B	R928	3A		
Q906	3E	S901	3D	S908	3F	R902	3A	R909	2A	R918	3E	R929	3A		
D901	3E	S902	3B	S909	2A	R903	3C	R910	2D	R919	3B	R931	3B		